VIRGINIA AQUATIC RESOURCES TRUST FUND
ANNUAL REPORT - 2006

April 16, 2007

This document serves as the required annual reporting of the status and activities of the Virginia Aquatic Resources Trust Fund (Fund) through December 31, 2006. The report includes a summary of the permitted impacts and associated mitigation payments and the projects to mitigate those impacts since the initiation of the Fund. This report updates the 2005 annual report and details specific activity conducted by the program in 2006.

The information is divided into the following sections:

- **Executive Summary** – provides a general overview of the information in the report
- **I. Introduction** – provides general information and background about the program and a summary of the status of impacts, mitigation payments, and funds authorized since the initiation of the Fund
- **II. Impacts, Revenues, and Operational Costs** – provides the distribution of impacts and mitigation payments by river basin and resource type and a summary of other revenues and operational costs
- **III. Summary of 2006 Impact and Mitigation Payments, Project Proposals, and Funding Authorizations** – provides a summary of the impact and mitigation payments, proposed projects, and funds authorized during 2006
- **IV. Mitigation Overview** – provides information concerning mitigation goals and general procedures
- **V. Mitigation Projects** – provides details of the mitigation projects for which funds have been proposed and authorized
- **VI. Future Priorities** – identifies future goals and needs of the Fund
- **Attachment A**. Map of Project Locations within River Basins
- **Attachment B**. Map of Northwest River Conservation Corridor
- **Attachment C**. Approved Project Table

Executive Summary

The Virginia Aquatic Resources Trust Fund (Fund) is administered in partnership by The Nature Conservancy of Virginia (the Conservancy) and the Norfolk District United States Army Corps of Engineers (Corps) to provide compensatory mitigation for permitted wetland and stream impacts in Virginia through an in-lieu-fee (ILF) agreement. The Fund provides one option for a permit applicant to address compensatory mitigation requirements associated with Section 404 and 401/Virginia Water Protection permits issued by the Corps and the Virginia Department of Environmental Quality (DEQ), respectively. By consolidating the mitigation requirements of multiple small projects, the Fund is able to implement large-scale watershed efforts that restore, enhance, and protect water quality. The Fund attempts to maximize the ecological benefits of compensatory mitigation by locating mitigation projects in identified conservation priority areas within each watershed. For instance, many of the Fund's mitigation projects have been integrated into areas identified by the Conservancy's overall Conservation by Design strategy as important to protect the rare plants, animals, and natural communities of Virginia.

A primary goal of the Fund is to ensure a "no net loss" of acreage, functions, and values for compensatory mitigation completed for impacts to aquatic resources of the same type and within the same watershed as the impacts. This watershed approach is implemented through the program goal to mitigate for permitted impacts through the completion of projects located in the same major river basin as the impacts. The thirteen major river basins used for this approach are the Atlantic Ocean, Chesapeake Bay, Chowan River, Lower James River, Middle James River, Upper James River, New River, Potomac River, Rappahannock River, Roanoke River, Shenandoah River, Tennessee River, and York River. Each basin is composed of the 8-digit hydrologic unit codes (HUC) as indicated in DEQ's Final 2006 305(b)/303(d) Water Quality Assessment Integrated Report, with the exception that the Chesapeake Bay HUC's and Atlantic Ocean HUC are separated for the purposes of the Fund reporting.

Through December 31, 2006, the Fund has been used to mitigate for non-tidal wetland, tidal wetland, and stream impacts in the thirteen major river basins in Virginia. These impacts have generated $36,410,168.53 in mitigation payments as summarized in the table below. From these mitigation payments, the Corps has authorized $17,010,449.32 for the Conservancy to complete activities on 65 potential mitigation projects. The Conservancy is actively pursuing mitigation activities on 61 of these sites in twelve of the major river basins. In addition to the mitigation payments and authorized funds to complete mitigation projects, as of December 31, 2006, the Fund has generated $2,436,350.84 in interest, and has incurred total costs or authorizations of $1,338,791.38 to fund staff positions, general equipment, and overhead and bank fee charges.

Summary of Impacts, Mitigation Payments, and Funds Authorized from 1995-2006.

Resource Type	Impacts	Mitigation Payments ($)	Authorized Funds ($)
Non-tidal Wetland	201.843 acres	15,656,868.14	8,002,122.82
Tidal Wetland	2.029 acres	366,201.84	393,068.50
Stream	146,862 linear feet	20,387,098.55	8,615,258.00
	Totals	**36,410,168.53**	**17,010,449.32**

In 2006, the Conservancy requested funding to complete various mitigation activities, including full restoration expenses, land acquisition, appraisals, feasibility studies, and surveys, for 28 projects. These projects included mitigation opportunities for non-tidal and tidal wetlands and streams across ten of the

thirteen major river basins. The Corps granted funding approval for 21 of the projects. In addition to the projects proposed and approved in 2006, the Corps approved four additional projects the Conservancy had previously proposed in 2005.

The following is intended to provide general information about the Fund. The areas of focus include impacts and finances, non-tidal wetland summary, tidal wetland summary, and stream summary. Much of the information is provided in a tabular format for ease in review. The information is provided on a programmatic-level and by river basin for each resource type. Although condensing the Fund's activities into programmatic categories may be informative, it is important to note that the Fund seeks to provide the appropriate compensatory mitigation for each aquatic resource within each river basin. In order to get the full understanding regarding impacts, mitigation funds, authorized funds, and compensatory mitigation for each basin, please refer to the detailed information contained in the rest of this report.

Of the 61 active projects, 41 projects include mitigation activities to address non-tidal wetland impacts; eight projects include mitigation activities to address tidal wetland impacts; and 28 projects include mitigation activities to address stream impacts. The mitigation sites are permanently protected typically through recordation of a conservation easement or ownership by the Conservancy. Alternative protection methods may be implemented through approval by the Corps.

The following table summarizes the funds authorized by the Corps according to resource type and major river basin. All major river basins in Virginia have had funds authorized towards mitigation projects, except for the New River Basin. Until recently, the Fund has not been used as a mitigation option in that basin.

Authorized Funds Per Resource Type and Basin.

Basin	Funds Authorized			
	Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)	Total ($)
Atlantic Ocean	0.00	206,350.00	0.00	206,350.00
Chesapeake Bay	526,067.59	73,402.25	134,038.00	733,507.84
Chowan	2,576,945.23	52,666.25	0.00	2,629,611.48
Lower James	2,806,866.00	50,650.00	334,032.00	3,191,548.00
Middle James	493,200.00	0.00	513,250.00	1,006,450.00
Upper James	22,679.00	0.00	149,009.00	171,688.00
Potomac	178,250.00	0.00	2,692,753.00	2,871,003.00
Rappahannock	20,500.00	10,000.00	2,062,534.00	2,093,034.00
Roanoke	0.00	0.00	203,250.00	203,250.00
Shenandoah	0.00	0.00	2,072,535.00	2,072,535.00
Tennessee	42,000.00	0.00	315,000.00	357,000.00
York	1,335,615.00	0.00	138,857.00	1,474,472.00
Totals	**8,002,122.82**	**393,068.50**	**8,615,258.00**	**17,010,449.32**

Non-Tidal Wetland Summary

The following tables provide summary information of Fund activity relating to non-tidal wetlands. The first two tables provide the total impacts (acres), mitigation payments, authorized funds, the remaining balance of available funds, the mitigation liability (credits), mitigation activities being pursued (acres),

and the associated proposed credits for non-tidal wetlands on a programmatic basis. The last table provides a summary of the non-tidal wetland impacts (acres) and associated credit liability as well as the proposed wetland mitigation credits, acres, and additional protected acres for each major river basin.

Non-Tidal Wetland Impact and Financial Summary.

Impacts (ac)	Mitigation Payments ($)	Authorized Funds ($)	Remaining Balance ($)	Mitigation Liability (Credits)
201.84	$15,656,868.14	$8,002,122.82	$7,654,745.32	365.54

Non-Tidal Wetland Mitigation Activity Summary.

Non-Tidal Wetland Mitigation Activities (Acres)					Sum of Mitigation Acres	Sum of Mitigation Credits
Wetland Restoration	Wetland Enhancement	Wetlands Preservation	Upland Restoration	Upland Preservation		
455.90	24.49	2,990.05	202.94	758.45	4,431.83	814.52

Non-Tidal Mitigation Activity Summary Based on Major River Basin.

Basin	Impacts (Acres)	Mitigation Liability (Credits)	Proposed Mitigation (Credits)	Proposed Mitigation (Acres)	Additional Protected Acreage
Atlantic Ocean	0.17	0.32	0.00	0.00	0.00
Chesapeake Bay	25.98	48.18	82.14	792.19	81.26
Chowan River	33.44	59.86	378.30	1,765.02	0.00
Lower James River	68.22	130.57	199.59	1,068.18	514.00
Middle James River	20.05	36.99	25.96	94.50	513.32
Upper James River	3.10	5.08	0.00	0.00	0.00
New River	0.60	0.64	0.00	0.00	0.00
Potomac River	7.01	10.83	20.08	152.76	0.00
Rappahannock River	9.90	18.98	1.70	18.00	0.00
Roanoke River	3.93	6.88	0.00	0.00	0.00
Shenandoah River	5.25	6.73	0.00	0.00	0.00
Tennessee River	15.09	23.19	1.57	6.12	0.00
York River	9.10	17.29	105.18	535.06	34.32
Total	**201.84**	**365.54**	**814.52**	**4,431.83**	**1,142.90**

Though impacts have occurred in all thirteen major river basins, historically, the majority of non-tidal wetland impacts (greater than 20 acres) and mitigation payments have accumulated in the following basins: Chesapeake Bay, Chowan River, Lower James River, and Middle James River. Moderate impacts and mitigation payments have accumulated in the Potomac River, Rappahannock River, York River, Shenandoah River, and Tennessee River Basins. Relatively few impacts (less than 5 acres) and associated payments have been received in the Atlantic Ocean, Upper James River, New River, and Roanoke River Basins. Roughly three quarters of all impacts were to palustrine forested wetlands, with the remaining quarter split among emergent and shrub-scrub wetland types.

Non-tidal wetland mitigation requirements are largely addressed by mitigation projects in key basins with the greatest impacts such as the Lower James River, Chowan River and York River. However, there are several basins in which mitigation projects are needed. The most highly prioritized basins include the Tennessee River, Rappahannock River, Roanoke River, and Shenandoah River. One project in the

Tennessee River Basin (TN-4) involving non-tidal wetland mitigation (as well as stream mitigation) has been funded, and the Conservancy is currently negotiating with the landowner on the sale of the property. In addition, the Conservancy is also actively pursuing a non-tidal wetland and stream restoration/enhancement project in the Roanoke River Basin. The Conservancy anticipates requesting funding for conceptual plan development for this project in early 2007. Projects in the Upper James River Basin (UJ-1) and Chesapeake Bay Basin (CB-10) involving feasibility and acquisition were approved in 2006, and these represent basins of intermediate mitigation need. The Conservancy anticipates submitting proposals in 2007 to request funding to complete the mitigation options suggested by the feasibility studies.

Tidal Wetland Summary

The following tables provide summary information of Fund activity relating to tidal wetlands. The first two tables provide the total impacts, mitigation payments, authorized funds, the remaining balance of available funds, the mitigation liability (expressed as credits), mitigation activities being pursued (expressed as acres), and the associated proposed credits for tidal wetlands on a programmatic basis. The last table provides a summary of the non-tidal wetland impacts (acres) and associated credit liability as well as the proposed wetland mitigation credits, acres, and additional protected acres for each major river basin.

Tidal Wetland Impact and Financial Summary.

Impacts (ac)	Mitigation Payments ($)	Authorized Funds ($)	Remaining Balance ($)	Mitigation Liability (Credits)
2.03	$366,201.00	$393,068.50	-$26,867.50	2.03

Tidal Wetland Mitigation Activity Summary.

Tidal Wetland Mitigation Activities (Acres)					Sum of Mitigation Acres	Sum of Mitigation Credits
Salt Marsh Restoration	SAV Restoration	Oyster Restoration	Tidal Enhancement	Tidal Preservation		
0.00	10.00	3.52	220.00	115.32	348.84	18.64

Tidal Mitigation Activity Summary Based on Major River Basin.

Basin	Impacts (Acres)	Mitigation Liability (Credits)	Proposed Mitigation (Credits)	Proposed Mitigation (Acres)
Atlantic Ocean	1.01	1.01	2.64	13.18
Chesapeake Bay	0.47	0.47	12.93	185.32
Chowan River	0.01	0.01	1.40	70.00
Lower James River	0.43	0.43	0.07	0.34
Potomac River	0.11	0.11	0.00	0.00
Rappahannock River	0.00	0.00	1.60	80.00
Total	**2.03**	**2.03**	**18.64**	**348.84**

Through the end of 2006, tidal impacts have been paid into the Fund from all tidally influenced basins except the Rappahannock River Basin. Tidal impacts are in general very small and infrequently accrued into the Fund. Most tidal impacts paid into the Fund have occurred in the Atlantic Ocean Basin (1 acre), accounting for half of all tidal impacts amassed by the Fund. The majority of tidal wetland impacts occurred to estuarine emergent (e.g. salt-marsh) wetlands although open water/unconsolidated bottom impacts accounted for roughly a quarter of the impacted acres.

A number of projects with tidal mitigation components have been approved through the Fund, including three that involve innovative restoration efforts (SAV restoration and oyster reef restoration). However, tidal salt marsh restoration or creation is lacking across all basins in which mitigation payments have been received. Although the restoration efforts funded to date are not inferior they do result in mitigation that is "out-of-kind" and these projects are subjected to higher ratios. Therefore, tidal salt marsh restoration and/or creation will remain a priority, especially for the Atlantic Ocean, Chesapeake Bay, and Lower James River basins which have accumulated the greatest amount of tidal salt marsh impacts.

Stream Summary

The following tables provide summary information of the Fund activities for streams. The first table provides a summary of the total linear feet of impacts and associated finance information for streams on a programmatic basis. The second table summarizes the total linear footage of each mitigation activity the Fund is pursuing through the approved 28 projects on a programmatic basis. For a broad overview of Fund activity, stream mitigation activities are divided into the following four general categories: channel restoration / enhancement (projects may include riparian buffer planting); riparian buffer planting (projects do not have channel or bank work); livestock exclusion; and stream and/or riparian buffer Preservation. The third table summaries the total impact length, linear footage of each mitigation activity, total channel length in the mitigation area, stream mitigation acreage, and the additional protected acreage for the approved stream projects for each major river basin.

As noted in both the second and third tables, multiple mitigation activities are completed along the same channel length for several projects. For example, riparian buffer planting and livestock exclusion activities are conducted along the same 2,000 linear foot length of stream channel for a project in the Rappahannock River Basin. The third table identifies these areas of multiple mitigation activities. Detailed descriptions of the mitigation activities (with associated buffer widths, as appropriate) for each project are included in the report.

Stream Impact and Financial Summary.

Impacts (linear feet)	Mitigation Payments ($)	Authorized Funds ($)	Remaining Balance ($)
146,862	20,387,098.55	8,615,258.00	11,771,840.55

Stream Mitigation Activity Summary.

Stream Mitigation Activity (linear feet)				Total Channel Length in Mitigation Area (linear feet)
Channel Restoration / Enhancement (may include buffer planting)	Riparian Buffer Planting (no channel or bank work)	Livestock Exclusion	Stream and/or Riparian Buffer Preservation	
20,962	9,700	23,799	386,636	**423,690**
For several projects, multiple mitigation activities are completed along the same channel length (e.g., Riparian Buffer Planting and Livestock Exclusion).				

Stream Mitigation Activity Summary Based on Major River Basin.

Basin	Impacts (lf)	Stream Mitigation Activity (lf)				Total Channel Length in Mitigation Area (lf)	Stream Mitigation Area (ac)	Additional Protected Acreage
		Channel Restoration / Enhancement (may include buffer planting)	Riparian Buffer Planting (no channel or bank work)	Livestock Exclusion	Stream and/or Riparian Buffer Preservation			
Atlantic Ocean	0	0	0	0	0	0	0.00	0.00
Chesapeake Bay	979	0	0	0	11,168	11,168	40.51	NTW
Chowan River	911	0	0	0	0	0	0.00	0.00
Lower James River	17,891	1,071	0	0	0	1,071	3.24	0.00
Middle James River	21,919	3,239	6,000	0	37,820	47,059	546.68	NTW
Upper James River	0	0	0	0	4,115	4,115	12.00	123.00
New River	3,078	0	0	0	0	0	0.00	0.00
Potomac River [1]	67,484	10,327	0	8,477	0	10,977	40.54	0.00
Rappahannock River [2, 3]	9,954	0	2,000	7,742	304,297	312,039	1,281.38	2,978.62
Roanoke River	4,635	0	0	0	6,008	6,008	40.46	26.29
Shenandoah River	11,425	4,745	1,700	0	0	6,445	32.90	94.00
Tennessee River [4, 5]	7,304	1,580	0	7,580	6,000	7,580	22.20	284.50
York River	1,282	0	0	0	17,228	17,228	211.12	132.72; Also NTW
Totals	**146,862**	**20,962**	**9,700**	**23,799**	**386,636**	**423,690**	**2,231.03**	**3,639.13**

Linear footages and acreages included in this table include estimates which may be changed in future reports, as the projects are in various phases of completion.

lf - linear feet

ac - acre

NTW - Additional Protected Acreage is reported under the non-tidal wetland summary

1 - Two projects include both Channel Restoration/Enhancement and Livestock Exclusion activities along the same channel length (950 lf; 6,877 lf)

2 - The Rappahannock River Fish Passage project is not included in the table

3 - One project includes both Riparian Buffer Planting and Livestock Exclusion along the same channel length (2,000 lf)

4 - One project includes both Livestock Exclusion and Stream and/or Riparian Buffer Preservation activities along the same channel length (6,000 lf)

5 - One project includes both Channel Restoration/Enhancement and Livestock Exclusion activities along the same channel length (1,580 lf)

Mitigation Area refers to linear footage and/or acreage included under a "no-touch" buffer

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture)

Through the end of 2006, the Fund has been used to mitigate for impacts to streams in all basins except for the Atlantic Ocean and the Upper James River Basins. The majority of stream impacts utilizing the Fund for mitigation have occurred in the Potomac River Basin, which has accrued more than three times any other basin, with over 67,000 linear feet of impacts. Additional basins with high impacts include the Middle James River, Lower James River, Shenandoah River, and Rappahannock River Basins. The Fund has been used to mitigate for relatively few impacts (less than 5,000 lf) in the Chesapeake Bay, Chowan River, New River, Roanoke River, and York River Basins.

Appropriately, the Conservancy has focused on the basins with greatest impacts to identify and propose stream mitigation projects. Projects have been identified and approved in each of the five basins of greatest mitigation need in 2006, and several additional projects are in development or have been

proposed and are awaiting a decision from the Corps. The Potomac River Basin remains a top priority for stream mitigation projects. However, the Conservancy has made significant strides in identifying and proposing projects in this basin, including three projects approved in 2006 (PO-1, PO-2, and PO-3). For this basin, the Conservancy is currently negotiating with a landowner to purchase a property to conduct both a stream and wetland mitigation project, and anticipates proposing an additional project with significant stream channel length in early 2007. The Conservancy is also focusing on identifying projects in the Lower James River Basin, and anticipates proposing a project with the restoration of significant stream channel length in early 2007.

In addition to the compensatory mitigation provided by the approved wetland and stream projects, many of the projects greatly contribute to the protection of Virginia's rare plants, animals, and natural communities. Utilizing Conservation by Design, mitigation sites are often located within a conservation framework that provide greater ecological benefit than would an isolated project with the same mitigation activities. The projects are often part of an on-going conservation initiation with comprehensive ecological management plans. The large size of many of the projects (including both the mitigation areas and additional protected acreage) provide significant habitat for wildlife that depend upon large, contiguous forest blocks while providing additional buffering protection for aquatic resources. These projects also provide corridors to connect preserved properties or surround and buffer a critical area. Many of the project sites are listed habitat sites for state and/or federal threatened or endangered species and have documented occurrences of the Virginia Department of Conservation and Recreation Natural Heritage Elements. In addition, many of the projects provide direct and indirect improvements to impaired systems, such as TMDL listed streams, or added protection to large or significant resource systems, including the Clinch River, Great Dismal Swamp, and the Chesapeake Bay watershed. Several sites also have significant historic or cultural resource preservation benefits or protect unique natural features.

The following is a compiled listing of the rare species, natural communities, and unique natural features that could potentially benefit from the approved mitigation projects of the Fund, through water quality improvement, habitat protection, feeding and nursery habitat protection, and direct enhancement or restoration of the resource. This list was developed utilizing existing conservation planning information, as well as, other data.

Conservation Targets

Common Name / Community	***Scientific Name***	**Federal/State Rankings**
Sensitive Joint Vetch	*Aeschynomone virginica*	G2/S2
Dwarf Wedgemussel	*Alasmidonta heterodon*	G1G2/S1
Elliott's Aster	*Aster puniceus elliottii*	G5T3T4/S1
Tropical Water-hyssop	*Bacopa innominata*	G3G5/S2
Aster-like Boltonia	*Boltonia asteroides*	G5/S3
Carolina Boltonia	*Boltonia caroliniana*	G4/S2
Carolina Fanwort	*Cabomba caroliniana*	G3G5/S1
Price's Cave Isopod	*Caecidotea pricei*	G3G4/S2S3
Hoary Elfin	*Callophrys polios*	S1S3
Epiphytic Sedge	*Carex decomposita*	G3/S2
A Sedge	*Carex striata*	G4/S2
Atlantic White Cedar	*Chamaecyparis thyoides*	G4/S2
Northeastern Tiger Beetle	*Cicindela dorsalis ssp. dorsalis*	Threatened
Sawgrass	*Cladium mariscus var. jamaicense*	G5T5/S1
Spreading Pogonia	*Cleistes divaricata*	G4/S1
Potomac Sculpin	*Cottus bairdi*	Potomac and James restricted

Common Name / Community	***Scientific Name***	**Federal/State Rankings**
Canebrake Rattlesnake (Coastal plain population)	*Crotalus horridus*	G4TUQ/S1
Button-bush Dodder	*Cuscuta cephalanthi*	G5/S1
Pretty Dodder	*Cuscuta indecora*	G5/S2
Showy Lady's Slipper	*Cypripedium reginae*	G4/S1
Showy Tick-trefoil	*Desmodium canadennse*	G5/S1S2
Beaked Spikerush	*Eleocharis rostellata*	G5/S3
Yellow Lance	*Elliptio lanceolata*	G2G3/S2S3
Big Bluet	*Enallagma durum*	G5/S3
Parker's Pipewort	*Eriocaulon parkeri*	G3/S2
Longfin Darter	*Etheostoma longimanum*	James River endemic
Scarce Swamp Skipper	*Euphyes dukesi*	G3/S2
American Peregrine Falcon	*Falco peregrinus anatum*	State threatened, DM
Appalachian Springsnail	*Fontigens bottimeri*	G2/S1S2/SE
Shiny Pigtoe	*Fusconaia cor*	G1/S1
Fine-rayed Pigtoe	*Fusconaia cuneolus*	G1/S1
Atlantic Pigtoe	*Fusconaia masoni*	G2/S2
American Bald Eagle	*Haliaeetus leucocephalus*	G5/S2S3
Small Whorled Pogonia	*Isotria medeoloides*	G2/S2
Least Bittern	*Ixobrychus exilis*	G5/S2
Jointed Rush	*Juncus articulatus*	G5/S2
Big-head Rush	*Juncus megacephalus*	G4G5/S2
Sheep-laurel	*Kalmia angustifolia*	G5/S3
Eastern Lampmussel	*Lampsilis radiata*	G5/S2S3
Green Floater	*Lasmigona subviridis*	G3,/S2
Birdwing Pearly Mussel	*Lemiox rimosus*	G1/S1
Kemp's Ridley Sea Turtle	*Lepidochelys kempii*	Endangered
Virginia Pigtoe	*Lexingtonia subplana*	G1/S1
Carolina Lilaepsis	*Lilaeopsis carolinensis*	G3/S1S2
Elongated Lobelia	*Lobelia elongata*	G4G5/S1
Winged Seedbox	*Ludwigia alata*	G3G4/S1
Roughhead Shiner	*Notropis semperasper*	James River endemic
Eastern Glass Lizard	*Ophisaurus ventralis*	G5/S1
Large-leaved Grass of Parnassus	*Parnassia grandifolia*	G3G4/S2
Joint Paspalum	*Paspalum distichum*	G5/S1
Stripeback Darter	*Percina notogramma*	James River endemic
Slender-leaved Dragon-head	*Physostegia leptophylla*	G4G5/S2
Peaks of Otter Salamander	*Plethodon hubrichti*	G2/S2
James River Spiny Mussel	*Pleurobema collina*	G1
Rare Skipper	*Problema bulenta*	G2G3/S1 SOC
Thin-necked Cave Beetle	*Pseudanophthalmus parvicollis*	G1S1
Rough Rabbits Foot	*Quadrula cylindrica*	G3T2/S2
Appalachian Monkeyface	*Quadrula sparsa*	G1/S1
Alderleaf Buckthorn	*Rhamnus alnifolia*	G5/S1
Capillary Beakrush	*Rhynchospora capillacea*	G5/S1S2
Hard-stemmed Bulrush	*Scirpus acutus*	G5/S1
Roundleaf Clover	*Solidago patula*	G5/S1
Dismal Swamp Southeastern Shrew	*Sorex longirostris fisheri*	G5T2/S2

Common Name / Community	***Scientific Name***	**Federal/State Rankings**
Sweetscent Ladies'-tresses	*Spiranthes odorata*	G5/S3
Silky Camellia	*Stewarthia malachodendron*	G4/S2
Bigger's Cave Amphipod	*Stygobromus biggersi*	G2G4/S1S2
Shenandoah Valley Cave Amphipod	*Stygobromus gracilipes*	G3G4/S2S3
Spanish Moss	*Tillandsia usneoides*	G5/S1
Least Trillium	*Trillium pusillum var. virginianum*	G3T3/S2
American Black Bears	*Ursus americanus*	Threatened
Large Cranberry	*Vaccinium macrocarpon*	G4/S2
Non-riverine saturated forest community		
Appalachian terrestrial dung community		
Appalachian cave drip pool/epikarstic community		
Appalachian cave stream community		
Appalachian cave stream riparian community		
Oligotrophic saturated scrub community		
Atlantic white cedar swamp community		
Brackish marsh community		
Pocosin community		

In conclusion, as intended, the mitigation payments for numerous, small impacts have been collectively pooled to provide large scale, ecologically preferable mitigation. As the available balance of the Fund grew, the ability of the program to pursue mitigation projects increased. With the addition of two program staff in 2005, increasing the total program staff to three, the number of approved projects has more than doubled in the past two years. At the close of 2006, nearly half of the accumulated mitigation payments have been authorized to a diverse array of non-tidal wetland, tidal wetland, and stream mitigation projects across Virginia. These projects provide a suite of typical wetland and stream restoration, enhancement, and preservation opportunities, as well as, unique projects aimed at improving water quality and/or providing additional ecological benefits. These distinctive projects include the re-establishment of oyster reefs and submerged aquatic vegetation beds and the removal of earthen dams and the installation of a fish passage structure to allow the migration of anadromous fishes. The Conservancy will continue to pursue the appropriate mitigation projects in river basins with mitigation need and available funds.

I. Introduction

The Virginia Aquatic Resources Trust Fund (Fund) is administered in partnership by The Nature Conservancy of Virginia (the Conservancy) and the Norfolk District United States Army Corps of Engineers (Corps) to provide compensatory mitigation for permitted wetland and stream impacts in Virginia through an in-lieu-fee (ILF) agreement. The Fund provides one option for a permit applicant to address compensatory mitigation requirements associated with Section 404 and 401/Virginia Water Protection (VWP) permits issued by the Corps and the Virginia Department of Environmental Quality (DEQ), respectively. By consolidating the mitigation requirements of multiple small projects, the Fund is able to implement large-scale watershed efforts that restore, enhance, and protect water quality. The program is dedicated to providing the greatest compensatory mitigation value, while providing a specific emphasis on the protection of Virginia's rare plants, animals, and natural communities. These additional ecological benefits which may also result in a higher potential for a project's long-term success are achieved, to a large extent, through the Conservancy's conservation planning and implementation efforts. The Fund attempts to maximize the ecological benefits of compensatory mitigation by locating mitigation projects in identified conservation priority areas within each watershed. For instance, many of the Fund's mitigation projects have been integrated into areas identified by the Conservancy's overall Conservation by Design strategy as important to protect the rare plants, animals, and natural communities of Virginia.

The Fund was established in 1995 as the Virginia Wetlands Restoration Trust Fund and operates in accordance with a Memorandum of Understanding (MOU) between the Conservancy and the Corps. The MOU was amended in 2003 to, in part, address impacts to stream resources throughout Virginia. Through the revised MOU, the name of the Fund was changed to the Virginia Aquatic Resources Trust Fund.

As stated in the MOU, a primary goal of the Fund is to ensure a "no net loss" of acreage, functions, and values for compensatory mitigation completed for impacts to aquatic resources of the same type and within the same watershed as the impacts. This watershed approach is implemented through the program goal to mitigate for permitted impacts through the completion of projects located in the same major river basin as the impacts. The thirteen major river basins used for this approach are the Atlantic Ocean, Chesapeake Bay, Chowan River, Lower James River, Middle James River, Upper James River, New River, Potomac River, Rappahannock River, Roanoke River, Shenandoah River, Tennessee River, and York River. Each basin is composed of the 8-digit hydrologic unit codes (HUC) as indicated in DEQ's Final 2006 305(b)/303(d) Water Quality Assessment Integrated Report, with the exception that the Chesapeake Bay HUC's and Atlantic Ocean HUC are separated for the purposes of the Fund reporting. The partnership with the Conservancy facilitates the overall and primary operational concept of the Fund which is to efficiently use the mitigation payments from many small impacts to provide large, cost-effective, and ecologically preferable mitigation projects.

The Fund is typically used to mitigate for impacts to less than three acres of wetlands and/or less than 2,000 lf of stream channel. The Fund is also used to provide mitigation for unauthorized impacts as directed by the agencies. The authority of a permit applicant to use the Fund as the selected mitigation option is at the discretion of the regulatory agencies. The Corps determines the amount of the permit applicant's mitigation payment required to provide the appropriate mitigation for the permitted impact. The mitigation payments are held by the Conservancy in an interest-generating account. These payments are then used by the Conservancy to complete the required stream and/or wetland mitigation. Potential projects are proposed by the Conservancy, and Corps approval of both the proposed project and the requested funding amount is required prior to the initiation of formal activities on the project. Potential and proposed projects are also coordinated with DEQ and United States Fish and Wildlife Service (FWS) during a monthly agency meeting initiated in 2006. Prior to 2006, the USACE coordinated with DEQ and

FWS independently.

The mitigation sites are permanently protected typically through recordation of a conservation easement or ownership by the Conservancy. Alternative protection methods may be implemented through approval by the Corps. All interest earned and funds not spent on approved projects following project closure remain in the general balance of the Fund.

The VWP Permit Regulation (9VAC 25-210-115 E) defines the criteria for DEQ's approval of an ILF program. In accordance with this regulation, DEQ, acting on behalf of the State Water Control Board (Board), may approve the use of an ILF fund program by approving the use of a fund for a specific project when approving a VWP Permit or by granting approval of a fund at a Board meeting. In a conditional letter dated January 31, 2007, DEQ granted approval for the use of the Fund as a compensatory mitigation option for stream and wetland impacts permitted under the VWP Permit Program through June 30, 2008. The above-referenced regulation also requires the submittal of annual reports to the Board detailing the activities of the ILF program. This report is intended to fulfill this regulatory requirement.

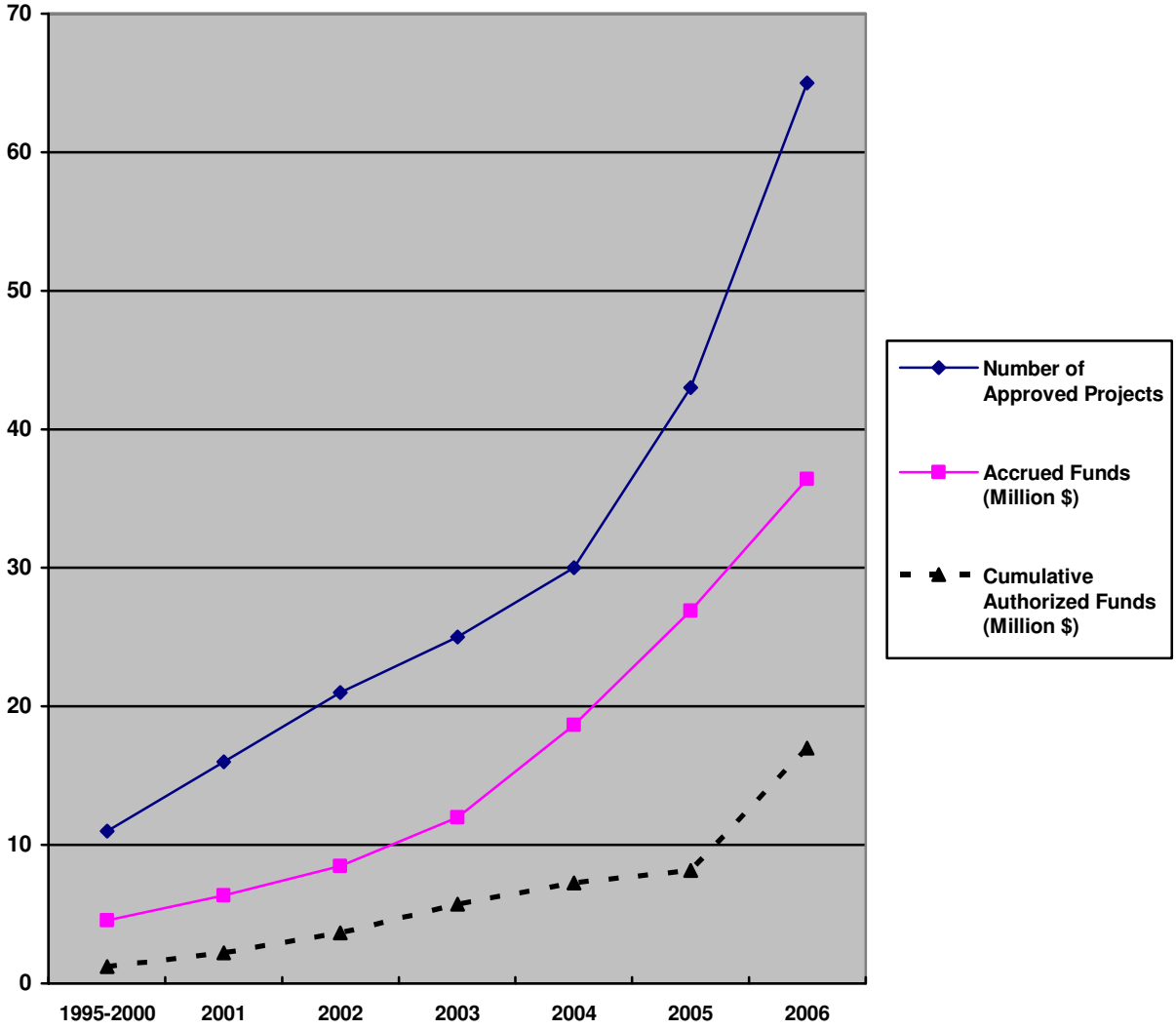
Through December 31, 2006, the Fund has been used to mitigate for non-tidal wetland, tidal wetland, and stream impacts in the thirteen major river basins in Virginia. These impacts have generated $36,410,168.53 in mitigation payments as summarized in Table 1. From these mitigation payments, the Corps has authorized $17,010,449.32 for the Conservancy to complete activities on 65 potential mitigation projects. The Conservancy is actively pursuing mitigation activities on 61 of these sites in twelve of the major river basins. A map depicting the location of these sites across the state is included in Attachment A.

Table 1: Summary of Impacts, Mitigation Payments, and Funds Authorized from 1995-2006.

Resource Type	Impacts	Mitigation Payments ($)	Authorized Funds ($)
Non-tidal Wetland	201.843 acres	15,656,868.14	8,002,122.82
Tidal Wetland	2.029 acres	366,201.84	393,068.50
Stream	146,862 linear feet	20,387,098.55	8,615,258.00
	Totals	**36,410,168.53**	**17,010,449.32**

The figure below depicts the activity and growth of the Fund over the course of its operation. As intended, the mitigation payments for numerous, small impacts have been collectively pooled to provide large scale, ecologically preferable mitigation. As the available balance of the Fund grew, the ability of the program to pursue mitigation projects increased. With the addition of two program staff in 2005, increasing the total program staff to three, the number of approved projects has more than doubled in the past two years. At the close of 2006, nearly half of the accumulated mitigation payments have been authorized to a diverse array of non-tidal wetland, tidal wetland, and stream mitigation projects across Virginia. These projects provide a suite of typical wetland and stream restoration, enhancement, and preservation opportunities, as well as, unique projects aimed at improving water quality and/or providing additional ecological benefits. These distinctive projects include the re-establishment of oyster reefs and submerged aquatic vegetation beds and the removal of earthen dams and the installation of a fish passage structure to allow the migration of anadromous fishes.

Figure 1: Comparison of Accrued Funds, Approved Projects and Authorized Funds



II. Impacts, Revenues, and Operational Costs

This section provides a summary of impacts and associated mitigation payments for all three resource types (non-tidal wetland, tidal wetland, and stream) as both an annual total and cumulatively by major river basin. Additional program revenues and operational costs are also detailed in this section.

Impacts and Associated Mitigation Payments

The following details the impacts and associated mitigation payments for non-tidal wetlands, tidal wetlands, and streams.

Non-Tidal Wetlands

Tables 2 and 3 provide the impact and mitigation payment summaries for non-tidal wetlands. In total, the Fund has been used to mitigate for non-tidal impacts each year since its inception. As of the end of 2006, the Fund has been used to mitigate for 201.843 acres of non-tidal wetland impacts across all thirteen major river basins. These impacts have generated total mitigation payments of $15,656,868.14 to the Fund for non-tidal wetlands.

Table 2: Non-tidal Wetland Impacts and Mitigation Payments by Year.

Year	Impacts (acres)	Mitigation Payments ($)
1995	2.90	65,000.00
1996	20.52	460,225.00
1997	26.0	1,305,486.00
1998	16.265	779,260.40
1999	13.920	967,583.10
2000	7.355	835,342.56
2001	12.099	1,243,900.72
2002	20.026	1,996,644.16
2003	28.366	3,233,167.54
2004	30.319	1,978,550.18
2005	6.688	830,140.70
2006	17.386	1,961,567.78
Total	**201.843**	**15,656,868.14**

A summary of non-tidal wetland impacts, wetland impact type, and mitigation payments by basin is provided in Table 3. Though impacts have occurred in all thirteen major river basins, historically, the majority of non-tidal wetland impacts (greater than 20 acres) and mitigation payments have accumulated in the following basins: Chesapeake Bay, Chowan River, Lower James River, and Middle James River. Moderate impacts and mitigation payments have accumulated in the Potomac River, Rappahannock River, York River, Shenandoah River, and Tennessee River Basins. Relatively few impacts (less than 5 acres) and associated payments have been received in the Atlantic Ocean, Upper James River, New River, and Roanoke River Basins. Roughly three quarters of all impacts were to palustrine forested wetlands, with the remaining quarter split among emergent and shrub-scrub wetland types.

Table 3: Non-tidal Wetland Impacts and Mitigation Payments by Basin.

Basin	Non-Tidal Wetland Type Impacted			Total Impacts (ac)	Mitigation Payments ($)
	PEM or POW (ac)	PSS (ac)	PFO (ac)		
Atlantic Ocean	0.03	0.00	0.15	0.17	19,717.60
Chesapeake Bay	3.35	0.85	21.78	25.98	2,967,970.45
Chowan	5.39	3.14	24.91	33.44	1,065,838.66
Lower James	4.34	3.07	60.81	68.22	4,402,668.31
Middle James	1.69	2.87	15.50	20.05	1,709,270.37
Upper James	1.01	0.21	1.88	3.10	143,301.48
New	0.52	0.08	0.00	0.60	35,738.47
Potomac	2.96	0.47	3.58	7.01	1,231,815.71
Rappahannock	0.82	0.00	9.08	9.90	1,445,694.20
Roanoke	0.74	0.48	2.71	3.93	314,896.68
Shenandoah	3.53	0.50	1.23	5.25	474,464.03
Tennessee	0.59	12.81	1.69	15.09	676,545.60
York	0.70	0.41	7.99	9.10	1,168,946.58
Total	**25.65**	**24.89**	**151.31**	**201.84**	**15,656,868.14**

Tidal Wetlands

Tables 4 and 5 provide the impact and mitigation payment summaries for tidal resources. The Fund has been used to mitigate for impacts to tidal wetlands each year since 1996. As of the end of 2006, the Fund has been used to mitigate for 2.029 acres of tidal wetland impacts across six major river basins. These impacts have generated total mitigation payments of $366,201.84 to the Fund for tidal wetlands.

Table 4: Tidal Wetland Impacts and Mitigation Payments by Year.

Year	Impacts (acres)	Mitigation Payments ($)
1996	0.05	13,000.00
1997	0.259	15,432.00
1998	0.301	47,965.00
1999	0.319	31,884.50
2000	0.092	12,113.01
2001	0.036	11,585.00
2002	0.159	19,327.00
2003	0.060	12,202.00
2004	0.078	33,650.47
2005	0.020	2,683.75
2006	0.656	166,358.92
Total	**2.029**	**366,201.84**

A summary of tidal wetland impacts, wetland impact type, and mitigation payments by basin is provided in Table 5. Through the end of 2006, tidal impacts have been paid into the Fund from all tidally influenced basins except the Rappahannock River Basin. Tidal impacts are in general very small and infrequently accrued into the Fund. Most tidal impacts paid into the Fund have occurred in the Atlantic Ocean Basin (1 acre), accounting for half of all tidal impacts amassed by the Fund. The majority of tidal

wetland impacts occurred to estuarine emergent (e.g. salt-marsh) wetlands although open water/unconsolidated bottom impacts accounted for roughly a quarter of the impacted acres.

Table 5: Tidal Wetland Impacts and Mitigation Payments by Basin.

Basin	Tidal Wetland Type Impacted		Impacts (ac)	Mitigation Payments ($)
	EEM (ac)	EOW/UB (ac)		
Atlantic Ocean	0.781	0.225	1.006	176,704.92
Chesapeake Bay	0.206	0.267	0.473	58,582.31
Chowan	0.014	0.000	0.014	2,137.50
Lower James	0.374	0.052	0.426	88,842.21
Potomac	0.060	0.050	0.110	38,934.90
York	0.000	0.000	0.000	1,000.00
Total	**1.435**	**0.594**	**2.029**	**366,201.84**

Streams

Tables 6 and 7 provide the impact and mitigation payment summary information for streams. The Fund has been used to mitigate for stream impacts beginning in 2001. However, the majority of the use of the Fund as compensatory mitigation for stream impacts has been since the revision of the MOU in 2003. By the end of 2006, the Fund has been used as mitigation for 146,862 linear feet of stream impacts across eleven of the major river basins. These impacts have generated $20,387,098.55 in total mitigation payments to the Fund for streams.

Table 6: Stream Impacts and Mitigation Payments by Year.

Year	Impacts (linear feet)	Mitigation Payments ($)
2001	5,973	550,285.80
2002	1,115	115,565.40
2003	2,576	274,785.00
2004	40,714	4,646,363.48
2005	55,095	7,422,213.58
2006	41,389	7,377,885.29
Total	**146,862**	**20,387,098.55**

A summary of stream impacts and mitigation payments by basin is provided in Table 7. Through the end of 2006, the Fund has been used to mitigate for impacts to streams in all basins except for the Atlantic Ocean and the Upper James River Basins. The Potomac River Basin has accrued more than three times any other basin, with over 67,000 linear feet of impacts. The Fund has been used to mitigate for a moderately high number of impacts (over 15,000 linear feet) in the Lower James River and Middle James River Basins, while relatively fewer impacts (5,000 to 15,000 lf) in the Rappahannock River, Tennessee River, and Shenandoah River Basins. The Fund has been used to mitigate for relatively few impacts (less than 5,000 lf) in the Chesapeake Bay, Chowan River, New River, Roanoke River, and York River Basins.

Table 7: Stream Impacts and Mitigation Payments by Basin.

Basin	Impacts (linear feet)	Mitigation Payments ($)
Chesapeake Bay	979	100,062.20
Chowan	911	94,679.20
Lower James	17,891	2,781,776.21
Middle James	21,919	3,454,416.24
New	3,078	290,318.00
Potomac	67,484	9,043,037.36
Rappahannock	9,954	1,559,909.00
Roanoke	4,635	564,035.54
Shenandoah	11,425	1,365,213.00
Tennessee	7,304	970,421.00
York	1,282	163,230.80
Total	**146,862**	**20,387,098.55**

Additional Revenues and Operational Costs

Upon receipt by the Conservancy, the mitigation payments are deposited in an interest generating account. The Conservancy provides the Corps with the account statements within thirty days of the statement issuance date. All earned interest, any remaining authorized funds at project closure, and any proceeds resulting from the sale of a project property (sold with a protective instrument to protect the mitigation area) remain in the Fund to accomplish additional mitigation projects.

Through 2006, the Fund balance generated $2,436,350.84 in interest. These monies are not directly associated with a specific permitted impact; and therefore, are not associated with specific mitigation requirements. To date, no projects have been officially closed. In November 2006, $222,450.71 was returned to the Fund from the sale of the Rivanna River (Lamb) (MJ-1) parcel. This parcel was sold to a conservation buyer under the protection of a conservation easement.

There are currently three staff positions funded by the program. The first staff member was hired in June 2001, and the additional staff was hired in January 2005. As of December 31, 2006, the Corps has authorized $577,068.79 to fund these three positions. The Corps has also authorized $14,589.00 to a general equipment cost center, which has been used to purchase field supplies such as GPS units.

In accordance with the 2003 revised MOU, the Conservancy receives an overhead fee of 3% of each mitigation payment on the date the payment is deposited. The original MOU specified a percentage based upon acquisition costs. These funds are used to reimburse overhead and related administrative costs incurred by the Conservancy. Through December 31, 2006, total overhead charges were $739,642.28. Additional bank fees and associated charges through December 31, 2006, totaled $7,491.31.

In summary, as of December 31, 2006, the Fund has generated $2,436,350.84 in interest, and has incurred total costs or authorizations of $1,338,791.38 to fund staff positions, general equipment, and overhead and bank fee charges.

III. Summary of 2006 Impact and Mitigation Payments, Project Proposals, and Funding Authorizations

In 2006, the Fund was used as the compensatory mitigation option for all three resource types in all thirteen major river basins. The Conservancy requested funding to complete various mitigation activities for 28 projects, with the Corps granted funding approval for 21 of these projects. The Corps also granted approval for four projects that the Conservancy had previously proposed in 2005. A detailed summary of these activities is provided below.

Impacts and Mitigation Payments

The Fund was used as the compensatory mitigation option for numerous non-tidal wetland, tidal wetland, and stream impacts across the state in 2006. Table 8 details the impacts and mitigation payments that were received by the Fund during this year. The Fund was used to compensate for: 17.386 acres of non-tidal wetland impacts with an average mitigation payment of $112,824.56 per acre; 0.656 acres of tidal wetland impacts with an average mitigation payment of $253,595.91 per acre; and 41,389 linear feet of stream impacts with an average mitigation payment of $178.26 per linear foot. In total, the Fund received $9,505,811.99 in mitigation payments in 2006. This amount accounts for nearly one fourth of the total mitigation payments received by the Fund to date.

Table 8: Impacts and Mitigation Payments in 2006.

Resource Type	Impacts	Mitigation Payments ($)
Non-tidal Wetland	17.386 acres	1,961,567.78
Tidal Wetland	0.656 acres	166,358.92
Stream	41,389 linear feet	7,377,885.29
	Total	**9,505,811.99**

Mitigation Project Proposals and Approvals

As stated in the MOU, the Corps seeks comments from DEQ prior to the approval or denial of a specific Fund mitigation proposal. The Corps also requests comments from FWS concerning each proposal. In 2006, monthly agency meetings were initiated for project proposal review and coordination. During these meetings, the Conservancy presents a proposed or potential project to the Corps, FWS, and DEQ. These meetings were initiated to provide a forum for discussion and review of proposed and potential projects, while attempting to streamline the review and coordination process.

The Conservancy proposed significantly more projects in 2006 than in any other year. With 28 new proposals presented to the agencies for approval, this is more than twice the number of projects proposed in any previous year.

Using the watershed approach to implement the program goal to mitigate for permitted impacts through the completion of projects located in the same major river basin as the impacts, the Conservancy routinely identifies river basins which have high mitigation need (impacts which have not been mitigated for through other program projects) and available funds. In 2006, targeted efforts were initiated in several

basins to provide suitable mitigation sites. The primary target areas for wetlands included the Chesapeake Bay, Lower James River, and Upper James River Basins. The targeted basins for streams included the Lower James, Rappahannock River, Potomac River, and Shenandoah River Basins. These basins represent several of the highest impacted watersheds (based on usage of the Fund as the compensatory mitigation option) in the state as shown in Section II.

In 2006, the Conservancy requested funding to complete various mitigation activities, including full restoration expenses, land acquisition, appraisals, feasibility studies, and surveys, for 28 projects. These projects included mitigation opportunities for non-tidal and tidal wetlands and streams across ten of the thirteen major river basins. The Corps granted funding approval for 21 of the projects. In addition to the projects proposed and approved in 2006, the Corps approved four additional projects the Conservancy had previously proposed in 2005. Table 9 provides summary information for the 25 projects approved in 2006.

In 2006, $8,866,084.00 was authorized towards the mitigation activities associated with the 25 approved projects. The sheer number of projects represents the tremendous efforts of Conservancy staff to identify and secure appropriate mitigation projects throughout the state. In addition, this amount authorized is more than four times the amount authorized towards projects than in any other year. As demonstrated in the tables and text, the Conservancy successfully identified and proposed significant projects to address the mitigation need in the basins with significant outstanding impacts and available funds.

The authorized funds will complete projects to mitigate for impacts to non-tidal and tidal wetlands and streams across eleven of the thirteen major river basins. These approved projects provide a suite of wetland and stream restoration, enhancement, and preservation mitigation opportunities. Many of the projects involve significant stream footage or wetland acreage, and several provide mitigation opportunities for multiple resource types. Of the approved projects, ten provide mitigation for solely stream impacts, eight provide mitigation for solely non-tidal wetland impacts, six provide mitigation for non-tidal wetland and stream impacts, and one provides mitigation for non-tidal and tidal wetland impacts.

A total of $2,522,833.00 was authorized for non-tidal wetland mitigation projects in eight river basins including Chesapeake Bay, Chowan River, Lower James River, Middle James River, Upper James River, Potomac River, Tennessee River, and York River Basins. Money was authorized for one tidal mitigation project in the Chesapeake Bay ($9,000.00). A total of $6,334,251.00 was authorized for stream projects in ten basins including Chesapeake Bay, Lower James River, Middle James River, Upper James River, Potomac River, Roanoke River, Rappahannock River, Shenandoah River, Tennessee River, and York River basins.

Table 9: Projects Approved in 2006.

Project ID	Project Name	Resource Type	Purpose of Proposal	Proposal Date	Corps Approval Date	Funds Authorized		
						Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)
CB-9	Guinea Neck Site	NTW	F	5/8/06	6/1/06	6,800.00	0.00	0.00
CB-10	East River (Brooks/Ober)	NTW	AC, F	7/5/06	10/5/06	28,496.00	0.00	0.00
CB-11	Dragon Run Site	NTW, S	M	9/7/06	12/7/06	66,300.00	0.00	11,700.00
CB-12	Guillford Shores Site	NTW, TW	M	7/7/06	12/7/06	3,732.00	9,000.00	0.00
CH-13	Northwest River (SP Forests, LLC)	NTW	M	11/21/05	2/2/06	366,700.00	0.00	0.00
LJ-7	Great Dismal Swamp NW Section Site	NTW	A	6/29/06	8/3/06	4,000.00	0.00	0.00
			AC, C	9/11/06	12/7/06	1,575,025.00	0.00	0.00
LJ-8	Lower Chickahominy River (Church Point Farm, LLC)	NTW	AC, M	11/6/06	12/15/06	49,786.00	0.00	0.00
LJ-9	James River Site	S	M	4/5/06	12/15/06	0.00	0.00	319,032.00
MJ-3	Beaumont (Sisters of the Blessed Sacrament)	NTW, S	A	3/16/06	4/23/06	3,750.00	0.00	3,750.00
			M	12/1/06	12/15/06	110,500.00	0.00	110,500.00
			BS	10/30/06	12/19/06	12,500.00	0.00	12,500.00
UJ-1	Warm Springs Mountain / Cowpasture River (Phillips)	NTW	AC, F	5/5/06	9/1/06	22,679.00	0.00	0.00
UJ-2	Warm Springs Mountain / Cowpasture River Site	S	M	5/18/06	12/7/06	0.00	0.00	149,009.00
PO-2	Dogue Creek Site	S	M	9/13/05	10/6/06	0.00	0.00	1,222,000.00
PO-3	Goose Creek Site	S	M	8/9/06	12/7/06	0.00	0.00	1,406,703.00
PO-4	Goose Creek Site	NTW, S	A	10/10/06	10/11/06	3,250.00	0.00	3,250.00
RP-4	Upper Rappahannock (City of Fredericksburg)	S	M	5/3/06	7/27/06	0.00	0.00	654,665.00
RO-2	Apple Orchard Mountain (City of Bedford)	S	M	1/19/06	2/7/06	0.00	0.00	8,250.00
SH-1	Cedar Creek (Mowery)	S	M	4/7/06	9/28/06	0.00	0.00	1,576,000.00
SH-2	Blacks Run Site	S	M	9/5/06	12/7/06	0.00	0.00	496,535.00
TN-2	Barns Chapel (Garry Smith Enterprises, Inc.)	S	M	12/16/05	3/28/06	0.00	0.00	305,000.00
TN-3	Barns Chapel (Atwell)	NTW	M	12/19/05	3/28/06	39,000.00	0.00	0.00
TN-4	Upper Clinch River Site	NTW, S	A	3/24/06	4/23/06	3,000.00	0.00	3,000.00
YK-6	Mattaponi River Site	NTW, S	M	4/18/06	5/2/06	6,570.00	0.00	4,380.00
YK-8	Mattaponi River Site	NTW	M	5/5/06	6/22/06	22,145.00	0.00	0.00
YK-9	Mattaponi River (Bach 1)	NTW, S	A	7/7/06	8/11/06	6,500.00	0.00	0.00
			M	11/7/06	12/15/06	192,100.00	0.00	33,900.00
YK-10	Mattaponi River Site	S	M	11/6/06	12/15/06	0.00	0.00	14,077.00
					Totals	**2,522,833.00**	**9,000.00**	**6,334,251.00**
					Grand Total	**8,866,084.00**		

Major River Basins

CB - Chesapeake Bay River Basin; LJ - Lower James River Basin; MJ - Middle James River Basin; UJ - Upper James River Basin; River Basin; PO - Potomac River Basin; RP - Rappahannock River Basin; RO - Roanoke River Basin; SH - Shenandoah River Basin; TN - Tennessee River Basin; YK - York River Basin

Resource Types

TW - Tidal Wetland; NTW - Non-tidal Wetland; S - Stream

Purpose of Proposal

M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey

In addition, through working with various partners, many of the projects contribute to large scale conservation efforts. While providing compensatory mitigation, many of these projects also contribute to the protection of Virginia's rare plants, animals, and natural communities including such highlights as Parker's pipewort (*Eriocaulon parkeri*), tropical water-hyssop (*Bacopa innominata*), American bald eagle (*Haliaeetus leucocephalus*), Dismal Swamp southeastern shrew (*Sorex longirostris fisheri*), American black bear (*Ursus americanus*), and canebrake rattlesnake (*Crotalus horridus*). Detailed summaries of each project are included in Section V.

The projects proposed in 2006 still pending a funding decision by the Corps include four stream restoration and enhancement projects with associated buffer preservation in the Middle James River Basin. The remaining two projects were requests to fund appraisal and survey expenses related to potential stream and wetland restoration projects in the Potomac River and Roanoke River Basins. Due to landowner issues, the Conservancy will likely withdraw the proposals in 2007 for the projects in the Potomac River and Roanoke River Basins.

The Conservancy also requested funds in 2006 to pursue a stream riparian buffer enhancement project in the Middle James River Basin. This project involved riparian buffer planting along approximately 1,000 linear feet of an unnamed tributary to Watts Branch in Albemarle County. The Corps, in consultation with the DEQ and FWS, denied funding for this project based on the landowner request for low density planting and the ability to mow the mitigation area.

Mitigation Project Withdrawals

In 2006, the Conservancy withdrew three mitigation projects previously approved by the Corps due to the inability to resolve negotiations with the landowners. One project located in the Potomac River Basin involved the preservation of a significant length of stream channel and wetland acreage. This project was referenced in the 2005 Annual Report. The second project involved a small wetland preservation site in the Chowan River Basin. The third project located in the York River Basin involved the preservation of non-tidal wetlands and streams. The approval of this project was to fund land appraisal for the potential project.

No funds for any of the three projects were spent, and the authorized funds were returned to the Fund's general balance.

IV. Mitigation Overview

The Fund is dedicated to providing the greatest compensatory mitigation value, while providing a specific emphasis on the protection of Virginia's rare plants, animals, and natural communities. As stated in the MOU, a primary goal of the Fund is to ensure a "no net loss" of acreage, functions, and values for compensatory mitigation completed for impacts to aquatic resources of the same type and within the same watershed as the impacts. The following sections detail the methodologies used by the Fund to help achieve these program goals.

Mitigation Value for Projects

The goal of "no net loss" of wetland acreage and function is defined in federal and state regulations. Activities which can be credited as wetland mitigation include wetland creation, restoration, enhancement, and preservation. In addition, the restoration, enhancement, or preservation of upland areas is also credited as wetland mitigation.

To determine and track the progress of the Fund toward the no net loss goal, information about impacts and mitigation is required. The Fund uses wetland impact area (acres) to determine the minimum requirement of wetland replacement necessary for each basin. Wetland replacement is achieved through wetland restoration or creation such that wetland acreage is gained to offset losses and this is consistent with state and federal laws. To address functional losses ratios are applied to wetland impacts. The following ratios are applied to acres of wetland impacts using the Fund in order to calculate the mitigation liability for each basin: PFO – 2:1, PSS – 1.5:1, PEM – 1:1, POW – 1:1, E1/2EM – 1: 1. It is generally accepted that higher ratios for wetland types that take longer to establish (e.g. forested wetlands) are necessary. To meet or exceed the mitigation liability in a basin, the Fund may pursue other activities in addition to restoration and creation.

During 2006, the Conservancy met with regulatory agencies (Corps, FWS, and DEQ) regarding standard compensatory mitigation ratios. The agencies agreed that the standard ratios included in the table below may typically be used for crediting the Fund's wetland mitigation projects. These standard ratios were used to update the information provided for each wetland mitigation project in Section V of this report. For certain projects under specific conditions, different ratios may be appropriate. In these cases, the proposed ratio is coordinated for acceptance by the regulatory agencies.

Table 10: Standard Wetland Compensation Ratios used for the Fund.

Proposed mitigation activity	Ratio
Wetland Restoration	1 : 1
Wetland Creation	1 : 1
Wetland Enhancement - Ratio ranges from 3:1 to 5:1 depending upon amount of enhancement.	3 : 1 to 5 : 1
Wetland Preservation	10 : 1
Upland Buffer Restoration	15 : 1
Upland Preservation - Ratio may be higher depending upon condition, location, or other factors.	20 : 1

To date, neither the goal of "no net loss" nor standard compensatory mitigation ratios have been defined for stream impacts and mitigation in Virginia. Examples of accepted activities which can be considered stream mitigation include restoration (activities to restore proper dimension, pattern, and profile), enhancement (e.g., creation of bankfull benches, bank shaping/sloping, installation of in-stream structures, planting of live-stakes), riparian buffer planting (for this report, the area within the first 200 feet from the top of the bank), livestock exclusion, and channel and upland riparian buffer preservation.

Due to the lack of a standard crediting method prior to December 31, 2006, the programmatic goal was to complete a combination of stream restoration, enhancement, and preservation projects with significant ecological benefit. Unlike with the wetland projects, "crediting" of stream projects is not completed for the Fund until there is an accepted set of standard ratios and crediting structure for future approved projects. Therefore, for this and previous annual reports, the mitigation activities for each stream project are described with the associated linear footage and protected riparian buffer widths.

For both wetland and stream projects, only those areas protected in accordance with the MOU are considered for mitigation. These are typically confined to ecologically important aquatic resources and buffers on the site in which activities incompatible for mitigation have been prohibited. The Conservancy refers to this "no-touch" protected area as the mitigation area.

In addition to the typical activities (noted above) which are considered mitigation for wetland and stream impacts, the Fund has pursued unique projects aimed at improving water quality and/or providing additional ecological benefits. These distinctive projects include the re-establishment of oyster reefs and submerged aquatic vegetation beds and the removal of earthen dams and the installation of a fish passage structure to allow the migration of anadromous fishes. While these projects may not be considered typical mitigation for wetland and stream impacts, their role in the improvement to water quality and benefit to fish and wildlife has proven appropriate for funding through the Fund. These projects are credited at a higher ratio, which reduces the amount of mitigation credit when compared to typical restoration projects.

Mitigation Project Site Selection

The following factors are considered during the identification and review of a project proposed for funding through the Fund.

- Appropriateness of the site to provide mitigation for permitted impacts
- Mitigation need for a project based on major river basin
- Likelihood of long-term success of the project
- Proximity of the site to identified areas of concern, environmentally sensitive sites, or other protected sites
- Project cost versus the mitigation value of the project

A proposed project must comply with the program goal to improve and protect water quality and provide appropriate and practicable mitigation for permitted impacts. As detailed in Section II, permitted impacts, the associated mitigation payments, and mitigation projects are tracked and reported by major river basin on an annual basis. This tracking process is in accordance with the Virginia Water Protection Permit Regulation (9VAC 25-210-115 E), which defines the criteria for DEQ's in-lieu fee fund approval. As previously stated, the primary goal of the Fund is to meet mitigation needs based on a major river basin basis. Although not required, a secondary goal of the Fund is to mitigate for permitted impacts through projects in the same or adjacent HUC. However, this goal is often cost prohibitive for the Fund based on limited impacts and associated mitigation payments in a certain area.

In addition to providing the appropriate mitigation, the program also considers the long-term success and ecological benefits for each project. The Conservancy is a leading international, non–profit organization with the mission of preserving the plants animals, and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. To achieve this mission, the Conservancy has developed a strategic, science-based planning process, called Conservation by Design, which helps the organization identify the highest-priority areas that, if protected, will secure biodiversity over the long term. The Conservancy uses this tool to help identify ideal areas to search for a potential mitigation site within each major river basin.

Conservation by Design entails a four-step, disciplined process that enables the Conservancy to develop the appropriate mix of actions to abate threats in a given place and to secure tangible, lasting conservation results. A detailed description of Conservancy by Design can be found at the Conservancy's website (**www.nature.org**).

As the first step to Conservation by Design, the Conservancy sets it conservation priorities for a specific, scientifically-selected geographic location, called an ecoregion. These ecoregions represent the full distribution and diversity of native species, natural communities, and ecosystems. In order to make the most effective progress toward the conservation goals, the Conservancy establishes priority conservation areas within these ecoregions.

These priority areas are those places that are most in need of conservation action or promise the greatest conservation return on the investment provide the best opportunity for investment in conservation efforts. Designing ecoregional based priority areas is accomplished through a careful review of the ecoregions' ecological significance, its concentration of different species, the overall quality of the natural communities, and threats to the health of the area. This collected data allows the Conservancy to identify and prioritize which sites in the ecoregion are most suitable for protection.

The Conservancy uses Conservation by Design to focus on specific areas within each major river basin to identify a needed stream or wetland mitigation site. In addition to the long-term protection of a specific plant or animal species or natural community, this approach also develops protection corridors within a landscape of priority conservation areas.

The primary reason for locating the Fund's mitigation projects within this conservation framework is to increase the potential ecological benefits of the mitigation site beyond its own "footprint". An example of the success of using Conservation by Design as a tool in this program is demonstrated in the Chowan River Basin, where the Fund has contributed to the protection and restoration of land within the Back Bay, North Landing River, and Northwest River conservation corridors. These corridors have been recognized by federal, state, local, and environmental organizations as high conservation priorities. The Fund has protected over 1,700 acres of land within these corridors and is actively restoring / enhancing over 200 acres of wetlands. These mitigation projects compliment the tens of thousands of acres that federal, state, local and conservation organizations have protected using other funds. A map of these conservation corridors is included in Attachment B.

Projects located outside of a Conservancy identified priority areas are considered and often proposed in partnership with natural resource partners based on the mitigation needs for the basin, mitigation opportunities at the specific site, and ecological benefits provided by the project and the high likelihood of long-term success.

Mitigation Monitoring and Project Success

Monitoring of an approved project is critical to determine the overall success of the project in terms of mitigation. In the past, a mitigation plan was typically prepared and submitted to the Corps for approval. Prior to 2004, monitoring and success criteria were not assigned to several projects, particularly projects involving stream mitigation or the non-typical mitigation projects. However, prior to that time, monitoring and success for stream mitigation were not defined or standardized in Virginia.

Over the past two years, the Fund has worked to standardize the mitigation plans, including the requirements for monitoring and the success criteria of the proposed projects. The Conservancy prepares a mitigation plan with requirements for monitoring and success for Corps approval for all recently proposed and approved projects.

As stated in the MOU, the Fund is committed to ensuring that the completed projects are successful, and will repair or perform corrective action on projects that are determined to be unsuccessful. To help ensure this commitment, as required by the MOU, all projects proposed since 2003 have 20% of the restoration costs authorized to complete corrective actions.

Long-Term Protection and Stewardship

In accordance with federal and state requirements, each mitigation project must have a provision for long-term protection of the mitigation area. This provision is most often a conservation easement, deed restriction, dedication as a natural area preserve, or ownership by the Conservancy. Alternative protection methods may be implemented through approval by the Corps. These instruments protect the ecologically important aquatic resources and buffers on the mitigation site through the prohibition of certain activities such as, but not limited to, silviculture, agriculture, and development within the mitigation area. The Conservancy refers to this "no-touch" protected area as the mitigation area.

Protective instruments are often placed on entire tracts of land, and not just over the identified mitigation area. Although certain activities are restricted by the easement, other activities may be allowed within this area which renders the acres ineligible to serve as mitigation for permitted impacts. The Conservancy tracks this additional acreage protected by the easement but located outside of the mitigation area as "additional protected acreage". The mitigation area acreage and additional protected acreage for each project are detailed in the Project Summaries and tables included in Section V.

Once the mitigation project has been finalized and the land protected, there is a need for a management plan to care for the area for the long term. As part of a project's proposal, the Conservancy often requests funds for the continual management and stewardship of the site. These funds are held in a stewardship endowment and used to fund stewardship activities. Project easements are sometimes held by one of the Conservancy's partners, who are then responsible for the stewardship, and the associated monitoring and reporting, of the site. For these projects, funds may be requested for the stewardship activities conducted by the partner.

Under certain circumstances, the Conservancy initially purchases the property and then transfers the parcel or sections of the parcel to another entity, such as a government organization, a local land trust, or a conservation buyer. All properties are transferred with legally binding restrictions, as described above, which limit certain land practices and uses, with the ultimate protection of the mitigation area. Each entity must be committed to protecting the property's important natural values and willing to ensure the lands' long-term conservation and protection. The proceeds of these land sales are returned to the program and used to accomplish additional mitigation projects.

The Corps reviews the proposed protective instrument for each project and has the final authorization on the appropriateness of the proposed form of protection, as well as, the content of each protective instrument.

Details regarding the long-term protection and stewardship for each mitigation project are included under the Project Summaries in Section V.

Partners

Partnerships are often instrumental for ensuring the success of each mitigation project and advancing the goals of the program. The Conservancy has partnered with various federal, state, local government groups, and private and non-profit organizations to offer a variety of mitigation opportunities, site locations, and aquatic resource benefits.

The Conservancy has worked collaboratively with numerous partners in many different capacities including the identification of potential sites or projects, land acquisition and ownership, long-term protection and stewardship, and project implementation. This collaboration has allowed the program to utilize the expertise, innovation, and local knowledge of the partners to promote land acquisition and protection, as well as, providing creative solutions to complex mitigation issues and concerns.

Several of the mitigation projects are part of a larger land protection or restoration opportunity sponsored by numerous partners. It is important to note that the Fund claims only the mitigation opportunities on the acreage directly funded through the program, and not the additional acreage acquired or accomplished by the partners.

The land owner is one of the most important partners to ensure the success of a mitigation project. Land owners for current projects include federal, state, and local governments, non-profit organizations, and private citizens. These land owners are dedicated to the conservation of the resources and are often interested in showcasing the mitigation activities to other landowners, while setting a precedent within the area.

The following is a sample of the groups the Conservancy has partnered with to achieve the mitigation projects included in this report. The diversity and expertise of these partners is a critical component to the success of the individual mitigation projects, as well as, the success of the program.

Bedford County
Canaan Valley Institute
Cave Conservancy of the Virginias
Central Virginia Battlefields Trust
Chesapeake Bay Foundation
Christopher Newport University
City of Bedford
City of Fredericksburg
City of Harrisonburg
Culpeper County
Ducks Unlimited
Fairfax County
Northern Virginia Conservation Trust
Northern Virginia Soil and Water Conservation District
Old Dominion University
Orange County
Rappahannock Phragmites Action Committee
Spotsylvania County
Stafford County
United States Army Corps of Engineers
United States Environmental Protection Agency
United States Fish and Wildlife Service
Valley Conservation Council
Various Consulting and Engineering Firms

Fauquier County	Various Individual Landowners
Friends of the Rappahannock	Virginia Commonwealth University
Goose Creek Association	Virginia Department of Conservation and Recreation
Henrico County	Virginia Department of Environmental Quality
James City County	Virginia Department of Forestry
James River Association	Virginia Department of Game and Inland Fisheries
Loudoun County	Virginia Institute of Marine Science
Middle Peninsula Land Trust	Virginia Marine Resources Commission
Middle Peninsula Public Access Authority	Virginia Outdoors Foundation
National Park Service	Virginia Polytechnic Institute and State University
Natural Resources Conservation Services	Western Virginia Land Trust

Details regarding partnering opportunities for each mitigation project are included under the Project Summaries in Section V.

Additional Program Benefits

In addition to the direct mitigation of surface water impacts, the Fund provides significant supplementary benefits to Virginia's resources. Many of these additional benefits are made possible through the site identification process and partnering opportunities outlined above.

Through Conservation by Design, mitigation sites are often located within a conservation framework that provide greater ecological benefit than would an isolated project with the same mitigation activities. The projects are often part of an on-going conservation initiation with comprehensive ecological management plans. The large size of many of the projects (including both the mitigation areas and additional protected acreage) provide significant habitat for wildlife that depend upon large, contiguous forest blocks while providing additional buffering protection for aquatic resources. These projects also provide corridors to connect preserved properties or surround and buffer a critical area. Many of the project sites are listed habitat sites for state and/or federal threatened or endangered species and have documented occurrences of the Virginia Department of Conservation and Recreation Natural Heritage Elements. In addition, many of the projects provide direct and indirect improvements to impaired systems, such as TMDL listed streams, or added protection to large or significant resource systems, including the Clinch River, Great Dismal Swamp, and the Chesapeake Bay watershed. Several sites also have significant historic or cultural resource preservation benefits or protect unique natural features.

In addition to the compensatory mitigation provided by the approved wetland and stream projects, many of the projects greatly contribute to the protection of Virginia's rare plants, animals, and natural communities. The following is a compiled listing of the rare species, natural communities, and unique natural features that could potentially benefit from the approved mitigation projects of the Fund, through water quality improvement, habitat protection, feeding and nursery habitat protection, and direct enhancement or restoration of the resource. This list was developed utilizing existing conservation planning information, as well as, other data.

Table 11: Conservation Targets

Common Name / Community	*Scientific Name*	Federal/State Rankings
Sensitive Joint Vetch	*Aeschynomone virginica*	G2/S2
Dwarf Wedgemussel	*Alasmidonta heterodon*	G1G2/S1
Elliott's Aster	*Aster puniceus elliottii*	G5T3T4/S1
Tropical Water-hyssop	*Bacopa innominata*	G3G5/S2
Aster-like Boltonia	*Boltonia asteroides*	G5/S3
Carolina Boltonia	*Boltonia caroliniana*	G4/S2
Carolina Fanwort	*Cabomba caroliniana*	G3G5/S1
Price's Cave Isopod	*Caecidotea pricei*	G3G4/S2S3
Hoary Elfin	*Callophrys polios*	S1S3
Epiphytic Sedge	*Carex decomposita*	G3/S2
A Sedge	*Carex striata*	G4/S2
Atlantic White Cedar	*Chamaecyparis thyoides*	G4/S2
Northeastern Tiger Beetle	*Cicindela dorsalis ssp. dorsalis*	Threatened
Sawgrass	*Cladium mariscus var. jamaicense*	G5T5/S1
Spreading Pogonia	*Cleistes divaricata*	G4/S1
Potomac Sculpin	*Cottus bairdi*	Potomac and James restricted
Canebrake Rattlesnake (Coastal plain population)	*Crotalus horridus*	G4TUQ/S1
Button-bush Dodder	*Cuscuta cephalanthi*	G5/S1
Pretty Dodder	*Cuscuta indecora*	G5/S2
Showy Lady's Slipper	*Cypripedium reginae*	G4/S1
Showy Tick-trefoil	*Desmodium canadennse*	G5/S1S2
Beaked Spikerush	*Eleocharis rostellata*	G5/S3
Yellow Lance	*Elliptio lanceolata*	G2G3/S2S3
Big Bluet	*Enallagma durum*	G5/S3
Parker's Pipewort	*Eriocaulon parkeri*	G3/S2
Longfin Darter	*Etheostoma longimanum*	James River endemic
Scarce Swamp Skipper	*Euphyes dukesi*	G3/S2
American Peregrine Falcon	*Falco peregrinus anatum*	State threatened, DM
Appalachian Springsnail	*Fontigens bottimeri*	G2/S1S2/SE
Shiny Pigtoe	*Fusconaia cor*	G1/S1
Fine-rayed Pigtoe	*Fusconaia cuneolus*	G1/S1
Atlantic Pigtoe	*Fusconaia masoni*	G2/S2
American Bald Eagle	*Haliaeetus leucocephalus*	G5/S2S3
Small Whorled Pogonia	*Isotria medeoloides*	G2/S2
Least Bittern	*Ixobrychus exilis*	G5/S2
Jointed Rush	*Juncus articulatus*	G5/S2
Big-head Rush	*Juncus megacephalus*	G4G5/S2
Sheep-laurel	*Kalmia angustifolia*	G5/S3
Eastern Lampmussel	*Lampsilis radiata*	G5/S2S3
Green Floater	*Lasmigona subviridis*	G3,/S2
Birdwing Pearly Mussel	*Lemiox rimosus*	G1/S1
Kemp's Ridley Sea Turtle	*Lepidochelys kempii*	Endangered
Virginia Pigtoe	*Lexingtonia subplana*	G1/S1
Carolina Lilaepsis	*Lilaeopsis carolinensis*	G3/S1S2

Common Name / Community	***Scientific Name***	**Federal/State Rankings**
Elongated Lobelia	*Lobelia elongata*	G4G5/S1
Winged Seedbox	*Ludwigia alata*	G3G4/S1
Roughhead Shiner	*Notropis semperasper*	James River endemic
Eastern Glass Lizard	*Ophisaurus ventralis*	G5/S1
Large-leaved Grass of Parnassus	*Parnassia grandifolia*	G3G4/S2
Joint Paspalum	*Paspalum distichum*	G5/S1
Stripeback Darter	*Percina notogramma*	James River endemic
Slender-leaved Dragon-head	*Physostegia leptophylla*	G4G5/S2
Peaks of Otter Salamander	*Plethodon hubrichti*	G2/S2
James River Spiny Mussel	*Pleurobema collina*	G1
Rare Skipper	*Problema bulenta*	G2G3/S1 SOC
Thin-necked Cave Beetle	*Pseudanophthalmus parvicollis*	G1S1
Rough Rabbits Foot	*Quadrula cylindrica*	G3T2/S2
Appalachian Monkeyface	*Quadrula sparsa*	G1/S1
Alderleaf Buckthorn	*Rhamnus alnifolia*	G5/S1
Capillary Beakrush	*Rhynchospora capillacea*	G5/S1S2
Hard-stemmed Bulrush	*Scirpus acutus*	G5/S1
Roundleaf Clover	*Solidago patula*	G5/S1
Dismal Swamp Southeastern Shrew	*Sorex longirostris fisheri*	G5T2/S2
Sweetscent Ladies'-tresses	*Spiranthes odorata*	G5/S3
Silky Camellia	*Stewarthia malachodendron*	G4/S2
Bigger's Cave Amphipod	*Stygobromus biggersi*	G2G4/S1S2
Shenandoah Valley Cave Amphipod	*Stygobromus gracilipes*	G3G4/S2S3
Spanish Moss	*Tillandsia usneoides*	G5/S1
Least Trillium	*Trillium pusillum var. virginianum*	G3T3/S2
American Black Bears	*Ursus americanus*	Threatened
Large Cranberry	*Vaccinium macrocarpon*	G4/S2
Non-riverine saturated forest community		
Appalachian terrestrial dung community		
Appalachian cave drip pool/epikarstic community		
Appalachian cave stream community		
Appalachian cave stream riparian community		
Oligotrophic saturated scrub community		
Atlantic white cedar swamp community		
Brackish marsh community		
Pocosin community		

As one of the largest, international conservation organizations, the Conservancy is recognized for its expertise in land protection. Because of this, many land owners are often willing to either donate an easement on their entire property or purchase the land or easement below fair market value. The savings in acquisition and protection costs allow the Fund to use those otherwise required costs to fund additional mitigation projects.

Although the program does not fund academic research, many of the project sites are available for scientific studies provided there is no interference with the mitigation efforts. For example, the following two academic institutions have conducted the following scientific research on several sites. The Virginia Polytechnic Institute and State University conducted research on the effects of vegetation cover types on soil temperature in regards to growing season at a southeast Virginia site. Old Dominion University

conducted a small mammal study at three project sites in the Chowan River Basin.

Project sites have also been used as training opportunities for various federal and state government programs. In addition, the Conservancy has organized field trips for interested federal, state, and local government representatives, private landowners and home owner organizations, watershed protection groups, school groups, youth service programs, and non-profit organizations. These trips have provided significant educational opportunities for both conservation and stream and wetland mitigation activities. For example, the Conservancy has lead field trips to the Rivanna River (Lamb) (MJ-1) project as part of the 2005 Virginia Stream Alliance Workshop, as well as, individual site visits with local government representatives, local landowners, youth service organizations, and school groups.

The Conservancy has also enlisted the help of numerous volunteers to assist the program funded staff in accomplishing activities both in the field and in the office. The volunteers have assisted program staff by reviewing and updating various program tracking records, conducting invasive species control activities, planting riparian buffers, and providing visual monitoring of the sites.

V. Mitigation Projects

This section provides general information regarding the mitigation projects proposed by the Conservancy and approved or denied by the Corps. Detailed project summaries of the approved projects are included in the end of this section.

Approved Mitigation Projects

From 1995 through 2006, the Corps has authorized $17,010,449.32 for the Conservancy (with our partners) to pursue a total of 65 mitigation projects. These projects attempt to achieve the overall programmatic goal of water quality improvement through the creation, restoration, and enhancement of non-tidal and tidal wetlands and through the restoration and enhancement of stream channels. Water quality is further enhanced by the Fund through the restoration or enhancement of the surrounding upland buffers. The Fund has also achieved the preservation of highly functional wetlands, streams, and buffer areas which both improve and protect water quality in the long-term. In addition to funding the direct costs of wetland and stream restoration, enhancement, creation, or preservation, money was also requested and authorized to fund a variety of associated or preliminary activities including land acquisition, property appraisals, boundary surveys, stewardship activities, feasibility studies, and conceptual plan development.

A summary table listing all of the projects for which funds have been authorized through 2006 is included in Attachment C. The table includes the project name and corresponding identification number (based on major river basin), project location information (HUC), aquatic resource type for which the project provides mitigation (non-tidal wetlands, tidal wetlands, streams), proposal information (purpose of the request for funding, date proposed by the Conservancy, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. The projects are organized by major river basin, and within each basin, listed chronologically based on the Corps funding approval date. Several project names are withheld as a privacy consideration for landowners whose protection instrument has not been finalized at this time. These projects are identified throughout the report according to the project identification number and the general location or watershed of the project.

Due to drainage divides or hydrological modifications at the site, three projects (CB-5/CH-12, CB-8/YK-4, and CH-9/LJ-4) mitigate for impacts within multiple basins. Although these projects are listed in the table in Attachment C under both basins, the total funds authorized by the Corps for these projects have been appropriately divided between the two respective basins.

The following table illustrates the number of mitigation projects approved by the Corps each year since the initiation of the Fund. Only the initial project approval is included in the table. Subsequent approvals for the same project are not recorded in the subsequent year.

Table 12: Annual Number of Approved Projects.

Year	Number of Approved Projects	
	Number	Cumulative Total
1995	1	**1**
1996	0	**1**
1997	4	**5**
1998	2	**7**
1999	1	**8**
2000	3	**11**
2001	5	**16**
2002	5	**21**
2003	5	**25**
2004	5	**30**
2005	12	**43**
2006	22	**65**

As stated in the original MOU, the Conservancy initially proposed projects located primarily along the North Landing River and Northwest Rivers within the Chowan River Basin. As the geographic range and amount of mitigation payments received by the Fund increased, the need for compensation projects in additional areas became necessary. In recent years, the Conservancy has proposed a diversity of projects across the state in all major river basins with the exception of the New River Basin. Until recently, the Fund was not used as a mitigation option for impacts in this basin; and therefore, the Conservancy did not focus on identifying mitigation projects in the area. Many of the proposed projects across the state include both wetland and stream components and a suite of creation, restoration, enhancement, and preservation activities. A map depicting the location of these sites across the state is included in Attachment A.

Of the 65 approved projects, 44 projects include mitigation activities to address non-tidal wetland impacts; eight projects include mitigation activities to address tidal wetland impacts; and 29 projects include mitigation activities to address stream impacts. Sixteen of the approved projects include mitigation activities to address impacts to multiple aquatic resource types. Of the 65 approved mitigation projects, the Conservancy is actively pursuing 61 projects. The Conservancy is no longer pursuing the remaining four projects due to irresolvable landowner constraints and based on the recommendations of feasibility studies.

The following table illustrates the number of projects approved each year based on resource type. As previously mentioned, certain projects mitigate for more than one resource type and are recorded under each resource. As noted in the table and detailed in Section III, the Fund has shown considerable progress in identifying and proposing mitigation projects in 2006, specifically in river basins with outstanding mitigation need.

Table 13: Annual Number of Approved Projects Per Resource Type.

Year	Number of Approved Projects		
	Non-Tidal Wetland Projects	Tidal Wetland Projects	Stream Projects
1995	1	0	0
1996	0	0	0
1997*	3	1	1
1998	2	0	0
1999	1	0	0
2000*	3	1	0
2001	3	1	1
2002	1	2	2
2003*	4	0	3
2004*	5	0	3
2005*	7	2	6
2006*	14	1	13
Totals	**44**	**8**	**29**

* Indicates at least one individual project within this year mitigates for multiple resource types.

The following table provides an annual summary and cumulative total of funds authorized by the Corps based on aquatic resource type through 2006. As noted in the table and detailed in Section III, the Fund has shown considerable progress in the approval of mitigation projects in 2006.

Table 14: Annual Authorized Funds Per Resource Type.

Year	Funds Authorized				
	Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)	Total ($)	Cumulative Total ($)
1995	37,020.00	0.00	0.00	37,020.00	**37,020.00**
1996	0.00	0.00	0.00	0.00	**37,020.00**
1997	167,076.59	10,000.00	7,000.00	184,076.59	**221,096.59**
1998	340,014.88	0.00	0.00	340,014.88	**561,111.47**
1999	143,203.88	0.00	0.00	143,203.88	**704,315.35**
2000	521,315.37	1,736.00	0.00	523,051.37	**1,227,366.72**
2001	936,680.10	10,000.00	15,000.00	961,680.10	**2,189,046.82**
2002	1,250,000.00	90,650.00	101,594.00	1,442,244.00	**3,631,290.82**
2003	510,841.00	40,000.00	1,545,800.00	2,096,641.00	**5,727,931.82**
2004	1,366,250.00	25,332.50	137,600.00	1,529,182.50	**7,257,114.32**
2005	206,888.00	206,350.00	474,013.00	887,251.00	**8,144,365.32**
2006	2,522,833.00	9,000.00	6,334,251.00	8,866,084.00	**17,010,449.32**
Grand Totals	**8,002,122.82**	**393,068.50**	**8,615,258.00**	**17,010,449.32**	

Table 15 summarizes the funds authorized by the Corps according to resource type and major river basin. All major river basins in Virginia have had funds authorized towards mitigation projects, except for the New River Basin. As detailed in Section III, until recently, the Fund has not been used as a mitigation option in the basin. Those basins with the highest approved authorizations are in excess of two million dollars each: the Chowan River, Lower James River, Potomac River, Rappahannock River, and Shenandoah River Basins. Two basins, the Middle James River and York River Basins, have over one million authorized towards mitigation projects.

Table 15: Authorized Funds Per Resource Type and Basin.

Basin	Funds Authorized			
	Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)	Total ($)
Atlantic Ocean	0.00	206,350.00	0.00	206,350.00
Chesapeake Bay	526,067.59	73,402.25	134,038.00	733,507.84
Chowan	2,576,945.23	52,666.25	0.00	2,629,611.48
Lower James	2,806,866.00	50,650.00	334,032.00	3,191,548.00
Middle James	493,200.00	0.00	513,250.00	1,006,450.00
Upper James	22,679.00	0.00	149,009.00	171,688.00
Potomac	178,250.00	0.00	2,692,753.00	2,871,003.00
Rappahannock	20,500.00	10,000.00	2,062,534.00	2,093,034.00
Roanoke	0.00	0.00	203,250.00	203,250.00
Shenandoah	0.00	0.00	2,072,535.00	2,072,535.00
Tennessee	42,000.00	0.00	315,000.00	357,000.00
York	1,335,615.00	0.00	138,857.00	1,474,472.00
Totals	**8,002,122.82**	**393,068.50**	**8,615,258.00**	**17,010,449.32**

These approved projects are in various stages of completion. For example, as detailed in Section III, a significant number of projects were approved during 2006. Many of these projects are pending the closure of land deals or easements, require delineations or surface water assessments, or are in the initial planning stages for restoration or enhancement activities. In addition to the recently approved projects, many of the older projects are pending official closure by the Conservancy with approval by the Corps. Therefore, acreages, linear footages, and funding values included in this report are often estimates and may require clarification in future reports. Once a project is officially closed, the Conservancy will report the final mitigation provided by that project and the total funds authorized for that project in the subsequent annual report.

As previously noted, of the 65 approved mitigation projects, the Conservancy is actively pursuing 61 projects. The Conservancy is no longer pursuing the remaining four projects due to various reasons including irresolvable landowner constraints and recommendations of feasibility studies. Three projects were originally pursued to mitigate for impacts to non-tidal wetlands in the Chesapeake Bay Basin (Project CB-9 approved in 2006), Lower James River Basin (Project LJ-5 approved in 2003), and Rappahannock River Basin (Project RP-6 approved in 2005). One project (MJ-2) was originally approved in 2005 to mitigate for impacts to streams in the Middle James River Basin.

Of the 61 active projects, 41 projects include mitigation activities to address non-tidal wetland impacts; eight projects include mitigation activities to address tidal wetland impacts; and 28 projects include

mitigation activities to address stream impacts. The following table reflects the current number of mitigation projects based on resource type actively pursued by the Conservancy.

Table 16: Number of Active Projects.

Year	Number of Active Projects		
	Non-Tidal Wetland Projects	Tidal Wetland Projects	Stream Projects
1995	1	0	0
1996	0	0	0
1997*	3	1	1
1998	2	0	0
1999	1	0	0
2000*	3	1	0
2001	3	1	1
2002	1	2	2
2003*	3	0	3
2004*	5	0	3
2005*	6	2	5
2006*	13	1	13
Totals	**41**	**8**	**28**

* Indicates at least one individual project within this year mitigates for multiple resource types.

Mitigation Projects Denied by the Corps

In addition to the approved projects detailed above, to date, the Corps has denied the authorization of officially requested funds for one project. The Conservancy requested funds in 2006 to pursue a stream riparian buffer enhancement project in the Middle James River Basin. This project involved riparian buffer planting along approximately 1,000 linear feet of an unnamed tributary to Watts Branch in Albemarle County. The Corps denied funding for this project based on the landowner request for low density planting and the ability to mow the mitigation area.

Approved Project Details

Non-Tidal Wetland Summary

The following tables provide summary information of Fund activity relating to non-tidal wetlands. The first two tables provide the total impacts (acres), mitigation payments, authorized funds, the remaining balance of available funds, the mitigation liability (credits), mitigation activities being pursued (acres), and the associated proposed credits for non-tidal wetlands on a programmatic basis. The last table provides a summary of the non-tidal wetland impacts (acres) and associated credit liability as well as the proposed wetland mitigation credits, acres, and additional protected acres for each major river basin.

Table 17: Non-Tidal Wetland Impact and Financial Summary

Impacts (ac)	Mitigation Payments ($)	Authorized Funds ($)	Remaining Balance ($)	Mitigation Liability (Credits)
201.84	$15,656,868.14	$8,002,122.82	$7,654,745.32	365.54

Table 18: Non-Tidal Wetland Mitigation Activity Summary

Non-Tidal Wetland Mitigation Activities (Acres)					Sum of Mitigation Acres	Sum of Mitigation Credits
Wetland Restoration	Wetland Enhancement	Wetlands Preservation	Upland Restoration	Upland Preservation		
455.90	24.49	2,990.05	202.94	758.45	4,431.83	814.52

Table 19: Non-Tidal Mitigation Activity Summary Based on Major River Basin

Basin	Impacts (Acres)	Mitigation Liability (Credits)	Proposed Mitigation (Credits)	Proposed Mitigation (Acres)	Additional Protected Acreage
Atlantic Ocean	0.17	0.32	0.00	0.00	0.00
Chesapeake Bay	25.98	48.18	82.14	663.81	81.26
Chowan River	33.44	59.86	378.30	1,765.02	0.00
Lower James River	68.22	130.57	199.59	1,068.18	514.00
Middle James River	20.05	36.99	25.96	94.50	513.32
Upper James River	3.10	5.08	0.00	0.00	0.00
New River	0.60	0.64	0.00	0.00	0.00
Potomac River	7.01	10.83	20.08	152.76	0.00
Rappahannock River	9.90	18.98	1.70	18.00	0.00
Roanoke River	3.93	6.88	0.00	0.00	0.00
Shenandoah River	5.25	6.73	0.00	0.00	0.00
Tennessee River	15.09	23.19	1.57	6.12	0.00
York River	9.10	17.29	105.18	535.06	34.32
Total	**201.84**	**365.54**	**814.52**	**4,303.45**	**1,142.90**

Tidal Wetland Summary

The following tables provide summary information of Fund activity relating to tidal wetlands. The first two tables provide the total impacts, mitigation payments, authorized funds, the remaining balance of available funds, the mitigation liability (expressed as credits), mitigation activities being pursued (expressed as acres), and the associated proposed credits for tidal wetlands on a programmatic basis. The last table provides a summary of the non-tidal wetland impacts (acres) and associated credit liability as well as the proposed wetland mitigation credits, acres, and additional protected acres for each major river basin.

Table 20: Tidal Wetland Impact and Financial Summary

Impacts (ac)	Mitigation Payments ($)	Authorized Funds ($)	Remaining Balance ($)	Mitigation Liability (Credits)
2.03	$366,201.00	$393,068.50	-$26,867.50	2.03

Table 21: Tidal Wetland Mitigation Activity Summary

Tidal Wetland Mitigation Activities (Acres)					Sum of Mitigation Acres	Sum of Mitigation Credits
Salt Marsh Restoration	SAV Restoration	Oyster Restoration	Tidal Enhancement	Tidal Preservation		
0.00	10.00	3.52	220.00	115.32	348.84	18.64

Table 22: Tidal Mitigation Activity Summary Based on Major River Basin

Basin	Impacts (Acres)	Mitigation Liability (Credits)	Proposed Mitigation (Credits)	Proposed Mitigation (Acres)
Atlantic Ocean	1.01	1.01	2.64	13.18
Chesapeake Bay	0.47	0.47	12.93	185.32
Chowan River	0.01	0.01	1.40	70.00
Lower James River	0.43	0.43	0.07	0.34
Potomac River	0.11	0.11	0.00	0.00
Rappahannock River	0.00	0.00	1.60	80.00
Total	**2.03**	**2.03**	**18.64**	**348.84**

Stream Summary

The following tables provide summary information of the Fund activities for streams. The first table provides a summary of the total linear feet of impacts and associated finance information for streams on a programmatic basis. The second table summarizes the total linear footage of each mitigation activity the Fund is pursuing through the approved 28 projects on a programmatic basis. For a broad overview of the Fund activity, stream mitigation activities are divided into the following four general categories: channel restoration / enhancement (projects may include riparian buffer planting); riparian buffer planting (projects do not have any channel or bank work); livestock exclusion; and stream and/or riparian buffer preservation. The third table summaries the total impact length, linear footage of each mitigation activity, total channel length in the mitigation area, stream mitigation acreage, and the additional protected acreage for the approved stream projects for each major river basin.

As noted in both Tables 24 and 25, for several projects, multiple mitigation activities are completed along the same channel length. For example, riparian buffer planting and livestock exclusion activities are conducted along the same 2,000 linear foot length of stream channel for the Linden Farm project (RP-2). Table 25 identifies these areas of multiple mitigation activities. Detailed descriptions of the mitigation activities (with associated buffer widths, as appropriate) for each project are included in the project summaries below.

Table 23: Stream Impact and Financial Summary.

Impacts (linear feet)	Mitigation Payments ($)	Authorized Funds ($)	Remaining Balance ($)
146,862	20,387,098.55	8,615,258.00	11,771,840.55

Table 24: Stream Mitigation Activity Summary.

Stream Mitigation Activity (linear feet)				Total Channel Length in Mitigation Area (linear feet)
Channel Restoration / Enhancement (may include buffer planting)	Riparian Buffer Planting (no channel or bank work)	Livestock Exclusion	Stream and/or Riparian Buffer Preservation	
20,962	9,700	23,799	386,636	**423,690**
For several projects, multiple mitigation activities are completed along the same channel length (e.g., Riparian Buffer Planting and Livestock Exclusion).				

Table 25: Stream Mitigation Activity Summary Based on Major River Basin.

Basin	Impacts (lf)	Stream Mitigation Activity (lf)				Total Channel Length in Mitigation Area (lf)	Stream Mitigation Area (ac)	Additional Protected Acreage
		Channel Restoration / Enhancement (may include buffer planting)	Riparian Buffer Planting (no channel or bank work)	Livestock Exclusion	Stream and/or Riparian Buffer Preservation			
Atlantic Ocean	0	0	0	0	0	0	0.00	0.00
Chesapeake Bay	979	0	0	0	11,168	11,168	40.51	NTW
Chowan River	911	0	0	0	0	0	0.00	0.00
Lower James River	17,891	1,071	0	0	0	1,071	3.24	0.00
Middle James River	21,919	3,239	6,000	0	37,820	47,059	546.68	NTW
Upper James River	0	0	0	0	4,115	4,115	12.00	123.00
New River	3,078	0	0	0	0	0	0.00	0.00
Potomac River [1]	67,484	10,327	0	8,477	0	10,977	40.54	0.00
Rappahannock River [2, 3]	9,954	0	2,000	7,742	304,297	312,039	1,281.38	2,978.62
Roanoke River	4,635	0	0	0	6,008	6,008	40.46	26.29
Shenandoah River	11,425	4,745	1,700	0	0	6,445	32.90	94.00
Tennessee River [4, 5]	7,304	1,580	0	7,580	6,000	7,580	22.20	284.50
York River	1,282	0	0	0	17,228	17,228	211.12	132.72; Also NTW
Totals	**146,862**	**20,962**	**9,700**	**23,799**	**386,636**	**423,690**	**2,231.03**	**3,639.13**

Linear footages and acreages included in this table include estimates which may be changed in future reports, as the projects are in various phases of completion.

lf - linear feet

ac - acre

NTW - Additional Protected Acreage is reported under the non-tidal wetland summary

1 - Two projects include both Channel Restoration/Enhancement and Livestock Exclusion activities along the same channel length (950 lf; 6,877 lf)

2 - The Rappahannock River Fish Passage project is not included in the table

3 - One project includes both Riparian Buffer Planting and Livestock Exclusion along the same channel length (2,000 lf)

4 - One project includes both Livestock Exclusion and Stream and/or Riparian Buffer Preservation activities along the same channel length (6,000 lf)

5 - One project includes both Channel Restoration/Enhancement and Livestock Exclusion activities along the same channel length (1,580 lf)

Mitigation Area refers to linear footage and/or acreage included under a "no-touch" buffer

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture)

In conclusion, as intended, the mitigation payments for numerous, small impacts have been collectively pooled to provide large scale, ecologically preferable mitigation. As the available balance of the Fund grew, the ability of the program to pursue mitigation projects increased. With the addition of two program staff in 2005, increasing the total program staff to three, the number of approved projects has more than doubled in the past two years. At the close of 2006, nearly half of the accumulated mitigation payments have been authorized to a diverse array of non-tidal wetland, tidal wetland, and stream mitigation projects across Virginia. These projects provide a suite of typical wetland and stream restoration, enhancement, and preservation opportunities, as well as, unique projects aimed at improving water quality and/or providing additional ecological benefits. These distinctive projects include the re-establishment of oyster reefs and submerged aquatic vegetation beds and the removal of earthen dams and the installation of a fish passage structure to allow the migration of anadromous fishes.

A detailed summary of each project for which funds have been authorized is included in the following sections. The mitigation projects are organized by major river basin.

Atlantic Ocean Basin

The Atlantic Ocean Basin is comprised of a single HUC (02080110) encompassing the eastern half of Virginia's Eastern Shore whose coastal lagoons and barrier islands are largely unaltered by human impact and are considered the best remaining Atlantic coast wilderness. The basin is located within the Conservancy's Chesapeake Bay Lowlands Ecoregion and has significant acreage protected through state and federal efforts. Conservation targets include nearshore Atlantic marine fauna, coastal estuarine and lagoon systems, the barrier island systems, migratory shorebirds, waterfowl, land birds and raptors, and breeding barrier island and lagoon birds.

The projects discussed in this section serve as mitigation for permitted impacts within the Atlantic Ocean Basin for which the Fund was used as compensatory mitigation. Through 2006, the Conservancy has requested funds to pursue two mitigation projects in this basin. The Corps has authorized funds for both projects, each providing mitigation for permitted impacts to tidal wetlands. While these projects may not be considered typical mitigation for wetland impacts, their role in the improvement to water quality and benefit to fish and wildlife has proven appropriate for funding through the program.

There have been no proposed non-tidal wetland projects in this basin, although 0.17 acres of impacts have accrued in the basin with a mitigation liability of 0.32 credits. To date, the Fund has not been used to mitigate for stream impacts in this basin; therefore, the Conservancy has not pursued any mitigation projects.

The following table provides a summary of projects for which funds were approved in this basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. A detailed summary of each project is included in the section below.

Table 26: Approved Project Summary for the Atlantic Ocean Basin.

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)
AO-1	Virginia Coast Reserve (SAV Beds)	M	6/10/05	0.00	50,000.00	0.00
AO-2	Virginia Coast Reserve (Oyster Beds)	M	6/10/05	0.00	156,350.00	0.00
			Totals	**0.00**	**206,350.00**	**0.00**
			Grand Total	**206,350.00**		

M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey

The following table summarizes the status, proposed mitigation activity type and associated acreage, and proposed credit for each tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Atlantic Ocean Basin. In addition the table provides the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted.

Table 27: Tidal Wetland Project Summary for the Atlantic Ocean Basin.

Project Information		Salt Marsh	SAV	Oyster	Tidal	Tidal	Mitigation	Proposed
Project #	Status	Rest	Rest	Rest	Enh	Pres	Acres	Credits
AO-1	M		10.00				10.00	2.00
AO-2	M			3.18			3.18	0.64
Acre Sub-totals		**0.00**	**10.00**	**3.18**	**0.00**	**0.00**	**13.18**	**2.64**
Credit Sub-totals		**0.00**	**2.00**	**0.64**	**0.00**	**0.00**		

Total Acres of Tidal Impacts	**1.01**
Total Mitigation Liability	**1.01**
Total Proposed Credits	**2.64**
***Percent of Wetland Acreage Replacement**	**262.0**

LP - Pending finalization of land protection	I - Restoration/Enhancement/Creation activities in progress
P - Planning / permitting	M - Mitigation monitoring
D - Pending delineation / assessment	CA - Corrective actions necessary
	PC - Pending project closure

*It should be noted that the restoration in this basin is "out of kind" and is credited at a 5:1 ratio.

Project Summaries

The following section provides a detailed summary of each project located within the Atlantic Ocean Basin for which the Corps has authorized funds through 2006. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

AO-1 Virginia Coast Reserve (SAV Beds)

The purpose of this project is to restore ten acres of submerged seagrass beds, primarily eelgrass (*Zostera marina*), within the seaside coastal bays of the Eastern Shore. The funding for this project was approved by the Corps on June 10, 2005. This project was sponsored and implemented by the Virginia Institute of Marine Science (VIMS). VIMS proposed to harvest and broadcast a minimum of 200,000 seeds into five one-acre plots in the fall of 2006 and an additional five acres in 2007. The eelgrass plots are concentrated in the Gull Marsh area, specifically Spider Crab Bay. Monitoring is scheduled to take place for a total of five years, ending in 2011. Annual reports are submitted to the Corps by the end of January each year.

Harvesting of eelgrass reproductive shoots with viable seeds occurred in spring 2006 during the peak period of seed release. Shoots were harvested using either self contained underwater breathing apparatus (SCUBA) or snorkeling, where shoots were collected by hand and placed in nylon mesh bags. These shoots were returned to the VIMS laboratory and placed in large seawater holding tanks at the seagrass greenhouse. The shoots were then monitored for seed release.

In mid-summer, viable seeds were separated from all detritus and plant material using a variety of sieving methodologies. Seeds were then placed inside the greenhouse and held at 20^{o}C in a re-circulating seawater system until fall 2006.

Seed broadcasting and planting was conducted in October and November 2006, just prior to seed germination which begins in late November. This involved broadcasting seeds into ten pre-determined one-half acre plots in Spider Crab Bay. Seeds were broadcast at two seed densities (50,000 and 100,000

seeds per acre) into eight of the ten 0.5 acre plots. Hand broadcasting has been the traditional method VIMS has used in the past. These densities were based on densities used in previous re-seeding efforts in the coastal bays. For the two additional 0.5 acre plots, seeds were broadcast using an experimental planter that was developed at VIMS. The planter is pulled behind a boat and seeds are gravity fed through tubes to individual injectors that deposit seeds just beneath the sediment surface. These two plots received seeds at densities of 50,000 and 100,000 seeds per acre.

Monitoring of the establishment and an assessment of seedlings in these plots will be conducted in April, 2007. Year 2 harvesting and planting will occur in 2007. Due to the unique nature of the activities in this project a 5:1 ratio is applied to the crediting of project.

AO-2 Virginia Coast Reserve (Oyster Beds)

The purpose of this project is to restore four acres of functional oyster reefs in the coastal bays of the Eastern Shore. The funding for this project was approved by the Corps on June 10, 2005. The Conservancy partnered with the Virginia Marine Resources Commission (VMRC) to sponsor this project. The partnership proposed to construct four acres of oyster reef in the intertidal zone of Cobb Island, known as Cobbs Cove. The reefs are posted and will be maintained as oyster sanctuaries by the Conservancy. Monitoring is scheduled for a total of five years, ending in 2009. Annual reports are submitted to the Corps during the spring of the subsequent year.

Reef construction at Cobbs Cove (identified as Reef 1) was completed in August 2005. Approximately 59,600 bushels of fossil shells were harvested and transported to the project location. The first year monitoring event (completed in 2005) indicated the reef to be approximately 1.62 acres. Surveys at three sampling sites on the reef provided an average yield indicating good to excellent spat fall of the newly planted shells. Security problems developed in the fall of 2005 at other reefs in Cobbs Cove. The Conservancy and VMRC requested approval from the Corps for a new reef (identified at Reef 2) to be constructed in a safer, inshore location. The selected site is a mainland farm owned by the Conservancy located near the town of Oyster. Reef 2 was completed July 24, 2006, with approximately 60,400 bushels of fossil shells.

The second year monitoring event (completed in 2006) included monitoring activities at both reefs. Both reefs were monitoring for oyster density (per square meter), spat fall and oyster growth, biomass, and total reef acreage. The monitoring results indicate good oyster growth, excellent spat fall, and significant natural recruitment at the sites. The increasing size variation in the oysters is beginning to create the vertical relief characteristic of a healthy, “functional” reef. The total acreage of reefs restored as part of the project to date is approximately 3.18 acres. Due to the unique nature of the activities in this project a 5:1 ratio is applied to the crediting of project.

Chesapeake Bay Basin

The Chesapeake Bay Basin is comprised of three HUCs (02080101, 02080102, and 02080109) that surround one of the largest and most productive bay ecosystems on the east coast of the United States. The basin is located within the Conservancy's Chesapeake Bay Lowlands Ecoregion and is the focal area of several conservation groups, including the Chesapeake Bay Foundation and the Alliance for the Chesapeake Bay, as well as, efforts of federal, state, and local governments. Conservation targets include migratory waterfowl, high-energy beaches, and bayside estuarine systems.

The projects discussed in this section serve as mitigation for permitted impacts within the Chesapeake Bay Basin for which the Fund was used as compensatory mitigation. Through 2006, the Conservancy has requested funds to pursue twelve mitigation projects in this basin. The Corps has authorized funds for all twelve projects. Two projects (CB-7 and CB-8/YK-4) provide mitigation solely for permitted impacts to non-tidal wetlands, and one project (CB-5/CH-12) provides mitigation solely for permitted impacts to tidal wetlands. Three projects (CB-1, CB-2, and CB-12) provide mitigation for permitted impacts to both non-tidal and tidal wetlands. Four projects (CB-3, CB-4, CB-6, and CB-11) provide mitigation for permitted impacts to both non-tidal wetlands and stream impacts.

Two projects (CB-9 and CB-10) involve the authorization of funds to conduct a feasibility study of the respective property to pursue a potential non-tidal wetland project. Based on the results of the study, project CB-9 was not pursued. The Conservancy is continuing to pursue a non-tidal wetland mitigation project for the CB-10 project.

Due to the location of the sites, two of the projects (CB-5/CH-12 and CB-8/YK-4) mitigate for impacts within both the Chesapeake Bay Basin and either the Chowan River Basin or York River Basin. The total funds authorized by the Corps and crediting value for each project have been appropriately divided between the two respective basins.

The following table provides a summary of projects for which funds were approved in the Chesapeake Bay Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. A detailed summary of each project is included in the section below.

Table 28: Approved Project Summary for the Chesapeake Bay Basin.

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)
CB-1	Dameron Marsh (Smith 1)	M	10/9/97	105,751.59	10,000.00	0.00
CB-2	New Point Comfort (Trimmer)	M	1/11/00	100.00	1,736.00	0.00
CB-3	Dragon Run (Calhoun 1; Piedmont Farms)	M	2/6/04	150,000.00	0.00	50,000.00
CB-4	Dragon Run (Byrd)	M	8/5/04	43,800.00	0.00	43,800.00
CB-5 / CH-12	Eastern Virginia Phragmites Control	M	8/30/02	0.00	20,000.00	0.00
			9/9/03	0.00	20,000.00	0.00
			8/31/04	0.00	12,666.25	0.00
CB-6	Dragon Run (Calhoun 2; Piedmont Farms)	M	2/1/05	66,588.00	0.00	28,538.00
CB-7	Dragon Run (Calhoun 3; Piedmont Farms)	M	4/25/05	12,000.00	0.00	0.00
CB-8 / YK-4	Upper Crab Neck (BP North America)	M	4/21/05	42,500.00	0.00	0.00
CB-9*	Guinea Neck Site	F	6/1/06	6,800.00	0.00	0.00
CB-10	East River (Brooks/Ober)	AC, F	10/5/06	28,496.00	0.00	0.00
CB-11	Dragon Run Site	M	12/7/06	66,300.00	0.00	11,700.00
CB-12	Guillford Shores Site	M	12/7/06	3,732.00	9,000.00	0.00
			Totals	**526,067.59**	**73,402.25**	**134,038.00**
			Grand Total	**733,507.84**		

* Project is no longer pursued due to landowner constraints or the results of feasibility studies.

M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey

The following tables summarize the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal and tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Chesapeake Bay Basin. In addition, the tables provide the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The tables do not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

Table 29: Non-Tidal Wetland Project Summary for the Chesapeake Bay Basin.

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed	Additional Protected
Project ID	Status	Rest/Cr	Pres	Enh	Rest	Pres	Acres	Credits	Acreage
*CB-1	M,D	15.88	13.72		21.33	0.21	51.14	18.68	
*CB-2	D		7.20			1.26	8.46	0.78	
*CB-3	PC		59.53				59.53	5.95	47.45
*CB-4	PC		2.64				2.64	0.26	33.81
*CB-6	PC		37.14			16.18	53.32	4.52	
CB-7	PC		3.49			0.21	3.70	0.36	
CB-8/YK-4	PC		361.1			150.4	511.50	43.63	
*CB-11	D,LP		35.00			13.40	48.40	4.17	
*CB-12	D,LP		22.00			31.5	53.50	3.78	
Sub-totals		**15.88**	**528.1**	**0.00**	**21.33**	**213.16**	**792.19**	**82.14**	**81.26**

Total Acres of Tidal Impacts	**25.98**
Total Mitigation Liability	**48.18**
Total Proposed Credits	**82.14**
Percent of Wetland Acreage Replacement	**61.1**

LP - Pending finalization of land protection	I - Restoration/Enhancement/Creation activities in progress
P - Planning / permitting	M - Mitigation monitoring
D - Pending delineation / assessment	CA - Corrective actions necessary
	PC - Pending project closure

* Project includes stream or tidal wetland mitigation.

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).

Table 30: Tidal Wetland Project Summary for the Chesapeake Bay Basin.

Project Information		Salt Marsh	SAV	Oyster	Tidal	Tidal	Mitigation	Proposed
Project #	Status	Rest	Rest	Rest	Enh	Pres	Acres	Credits
CB-1	D					13.50	13.50	1.35
CB-2	D					26.82	26.82	2.68
CB-5/CH12	PC				70.00		70.00	1.40
*CB-12	D,LP					75.00	75.00	7.50
Acre Sub-totals		**0.00**	**0.00**	**0.00**	**70.00**	**115.32**	**185.32**	**12.93**
Credit Sub-totals		**0.00**	**0.00**	**0.00**	**1.40**	**11.53**		

Total Acres of Tidal Impacts	**0.47**
Total Mitigation Liability	**0.47**
Total Proposed Credits	**12.93**
Percent of Wetland Acreage Replacement	**0.0**

LP - Pending finalization of land protection	I - Restoration/Enhancement/Creation activities in progress
P - Planning / permitting	M - Mitigation monitoring
D - Pending delineation / assessment	CA - Corrective actions necessary
	PC - Pending project closure

*Project includes non-tidal wetland mitigation

As noted in Section II, the Fund has been used to mitigate for 979 linear feet of permitted stream impacts in the Chesapeake Bay River Basin through 2006. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Chesapeake Bay Basin.

Table 31: Stream Project Summary for the Chesapeake Bay Basin.

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
CB-3*	PC	24.24	6,613	Riparian buffer preservation of 6,613 lf along the right bank of Dragon Run with an existing mature wooded buffer extending 100 to 225 feet from the edge of the protected stream and wetland complex.	Reported under the wetlands summary
CB-4*	PC	5.55	2,205	Riparian buffer preservation of 2,205 lf along the right bank of Timber Branch Swamp with an existing mature wooded buffer extending 100 feet from the edge of the protected stream and wetland complex.	Reported under the wetlands summary
CB-6*	PC	7.12	1,550	Riparian buffer preservation of 1,550 lf along the right bank of Dragon Run with an existing mature wooded buffer extending 200 feet from the edge of the protected stream and wetland complex.	0.00
CB-11*	D, LP	3.60	800	Riparian buffer preservation of 800 lf along the right bank of Dragon Run with an existing mature wooded buffer extending 200 feet from the edge of the protected stream and wetland complex.	0.00
	Totals	**40.51**	**11,168**		**0.00**

ac - acre
lf - linear feet
LP - Pending finalization of land protection
P - Planning / permitting
D - Pending delineation / assessment
I - Restoration / Enhancement activities in progress
M - Mitigation monitoring
CA - Corrective actions necessary
PC - Pending project closure

* Project includes wetland mitigation.

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).

Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").

Project Summaries

The following section provides a detailed summary of each project located within the Chesapeake Bay Basin for which the Corps authorized funds through 2006. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

CB-1 Dameron Marsh (Smith 1)

The purpose of this project is to conduct non-tidal wetland establishment, non-tidal and tidal wetland preservation, and upland buffer restoration and preservation at the Dameron Marsh property in Northumberland County. The funding for this project was approved by the Corps on October 9, 1997. The site was purchased by the Conservancy on December 10, 1997. The site is now managed as a State Natural Area Preserve (NAP) by the Virginia Department of Conservation and Recreation (DCR) Natural Heritage Program. Long-term protection is achieved through the dedication and maintenance of the site as a NAP.

The Dameron Marsh NAP is located at the eastern terminus of State Route 693. The Chesapeake Bay and Cloverdale Creek border the site to the south and southwest, and Ingram Bay and Mill Creek border the site to the northeast and north. The site harbors populations of the federally endangered eastern tiger beetle (*Cicindela dorsalis* ssp. *dorsalis*) the protection of which was a primary reason for the purchase of this project parcel, as well as, the adjacent 250 acre parcel (not funded by this program). The mitigation project area consists of approximately 64.64 acres including agricultural fields, uplands, and tidal areas. Based on landscape setting, hydrology, and analyses of vegetation in surrounding areas, the appropriate ecological community groups to target for restoration of the agricultural fields on this site consist of a mixture of maritime - loblolly pine forest, and estuarine - fringe pine forests. Major functions of the project include providing wildlife habitat and shoreline protection.

A portion of the property is comprised of tidal salt marsh preservation. Restoration activities were conducted in August of 2001 and included installation of a low profile berm system and small ditch plugs to prevent the drainage of surface water. Natural colonization of vegetation was utilized for this site. Approximately 15.88 acres of the agricultural fields have potential to establish primarily emergent wetlands and the surrounding higher ground (21.33 acres) will be restored to upland scrub and pine forest. The remaining acreage is wetland preservation. Automatic recording shallow groundwater monitoring wells were installed in 2002. A major objective of the project relating to vegetation is to control the invasive wetland weed, *Phragmites australis*, which was dominant in several acres when the site was purchased. Phragmites control has been conducted since 2001 and portions of the site were controlled by non-aerial methods in 2005 and 2006 representing a positive shift in those efforts, as reported by DCR. This reduction of Phragmites will allow a greater diversity of native plants to become established. The uplands have re-vegetated with native shrub species and the lower portions of the site where the drainage was blocked are dominated by emergent species. The majority of shallow groundwater hydrology wells installed at the site have met the Corps wetland hydrology requirement under normal circumstances based upon well data through the 2006 growing season. This is the fifth year post construction and mitigation monitoring is scheduled through 2011 with reports submitted to the Corps.

CB-2 New Point Comfort (Trimmer)

The purpose of this project is to conduct non-tidal and tidal wetland preservation and upland preservation at the Trimmer property located in Mathews County. The funding for this project was approved by the Corps on January 11, 2000. The property was purchased by the Conservancy on December 23, 1999. Long-term protection of the site is achieved through ownership by the Conservancy. No additional monitoring is required for this project.

The project is located within a Conservancy priority area with the focus to protect the habitat for the federally endangered eastern tiger beetle. This project, which is approximately 0.5 miles north of New Point Comfort Natural Area Preserve, contains tidal wetland preservation (26.82 acres), as well as, limited non-tidal wetland (7.20 acres) and upland (1.26 acres) preservation as well. A confirmed delineation of the site is required to determine mitigation credit. The Conservancy anticipates closing the project in

2007.

CB-3 Dragon Run (Calhoun 1; Piedmont Farms)

The purpose of this project is to conduct a non-tidal wetland, stream, and the associated upland riparian buffer preservation at the Dragon Run (Calhoun 1; Piedmont Farms) site in Middlesex County. The funding for this project was approved by the Corps on February 6, 2004. The property was acquired by the Conservancy on April 30, 2004. Two additional adjacent properties (projects CB-6 and CB-7) were acquired in separate purchases. The Conservancy is currently negotiating with a conservation buyer to purchase the site with a Corps-approved conservation easement in place to provide long-term protection. The funds from the land sale will be returned to the general balance of the Fund. Long-term protection will be achieved through the monitoring and enforcement of the conservation easement. No additional monitoring is required for this project.

The Dragon Run (Calhoun 1; Piedmont Farms) project is located north of the State Route 602 Bridge, which crosses Dragon Run Swamp. Dragon Run is considered one of the finest examples of intact bottomland wetland forest in Virginia and is a focus of land protection of the Conservancy, as well as, the state and other conservation partners. Dragon Run flows through the remote heart of the largest intact forest in the Chesapeake Bay Lowland ecoregion. The system harbors more than 165 plant, 90 bird, 45 tree, and 55 fish species. Five rare natural communities and 22 rare animal and plant species have been identified within the system.

The site is approximately 131.22 acres that is in a mixture of different uses including mature bottomland swamp, upland loblolly pine plantation forest, cleared timber land and unimproved dirt roads. However, the mitigation area is 83.77 acres, as certain activities will be allowed outside the designated "no-touch" buffers surrounding the aquatic resources.

A delineation of surface waters and wetlands on the property was conducted and confirmed by Corps in January 2006. The non-tidal wetland (59.53 acres) is comprised primarily of mature bottomland hardwood swamp. The delineation identified 6,613 linear feet of the right bank of Dragon Run located on the property. A "no-touch" buffer (24.24 acres) ranging from 100 to 225 feet will be maintained landward from the outside limits of the stream and wetland system. Other upland areas, designated as additional protected acreage, are estimated at 47.45 acres and are comprised of loblolly pine plantation forest and cleared timber land that will be managed and are not part of the mitigation acres. The Conservancy is negotiating a sale of the property with the mitigation areas subject to a conservation easement and will request official closure of the project upon finalization of the transaction.

CB-4 Dragon Run (Byrd)

The purpose of this project is to conduct non-tidal wetland, stream, and the associated upland riparian buffer preservation at the Dragon Run (Byrd) property in King and Queen County. The initial funding for this project was approved by the Corps on August 5, 2004. The Conservancy purchased the site on October 13, 2004. The Conservancy is currently negotiating with the Virginia Department of Forestry to purchase the site with a Corps-approved deed restriction in place to provide long-term protection. The funds from the land sale will be returned to the general balance of the Fund. Long-term protection will be achieved in accordance with the deed restriction. No additional monitoring is required for this project.

Dragon Run is considered one of the finest examples of intact bottomland wetland forest in Virginia and is a focus of land protection of the Conservancy, as well as, the state and other conservation partners. Dragon Run flows through the remote heart of the largest intact forest in the Chesapeake Bay Lowland ecoregion. The system harbors more than 165 plant, 90 bird, 45 tree, and 55 fish species. Five rare

natural communities and 22 rare animal and plant species have been identified within the system.

The Dragon Run (Byrd) property is 42 acres that is forested and drains to Timber Branch Swamp, a tributary to Dragon Run. A delineation of surface waters was conducted by the Conservancy and approved by the Corps in 2006. Approximately 2.64 acres of non-tidal wetlands were identified on the property. The wetlands were identified on the northern boundary of the property where there is a natural drainage generally running west to east that supports forested wetlands. The delineation identified 2,205 linear feet of the right bank of Timber Branch Swamp located on the property. A 100 foot "no-touch" buffer (5.55 acres) will be maintained from the outside limits of the stream and wetland system. The remaining 33.81 acres may be subject to activities that exclude its appropriateness as compensatory mitigation, but can be viewed as additional protected acreage as they will not be developed. The Conservancy will request official closure of this project in 2007.

CB-5/CH-12 Eastern Virginia Phragmites Control

The purpose of this project is to conduct tidal enhancement at six Natural Area Preserves and four State Parks over the period of 2002 - 2006. The funding for this project was approved by the Corps on August 30, 2002, September 9, 2003, and on August 31, 2004, for a total of $105,332.50. The Virginia Department of Conservation and Recreation (DCR) sponsored this project which proposed to spray over 300 acres of sensitive, managed lands that were infested with the invasive grass, *Phragmites australis* (Phragmites). Approximately half of the acreage was located within the Chesapeake Bay Basin, with the remaining half located within the Chowan River Basin. Long-term protection is achieved through maintenance of the areas as State Natural Area Preserves and State Park lands. DCR conducted plot monitoring after the treatments at specific preserves that concluded in 2006.

Recognizing the need for control of the invasive grass *Phragmites australis* which readily invades coastal wetlands and can reduce plant diversity within sensitive natural areas, DCR along with the United States Fish and Wildlife Service (FWS) representatives in Rappahannock River basin and the Conservancy identified properties they manage in the greatest need of control. An initial grant provided by the National Fish and Wildlife Foundation supported Phragmites treatment efforts on several DCR and Conservancy preserves; however, to combat such a large problem repeated treatments were needed. In 2002, DCR coordinated with others on a multi-site, multi-year strategy to control Phragmites in sensitive natural areas. According to the Final Report (Natural Heritage Technical Report 06-12) of the 391 acres treated, approximately 140 acres (36% of treated areas) are now considered to be in maintenance phase, requiring only occasional ground-based treatments to maintain control of Phragmites at these sites. One notable finding of this work was that across all aerial treatments first time applications of the herbicide Habitat© yielded about 95% success, an increase over glyphosate-based products. Due to the unique nature of this project the Conservancy proposes crediting at a 50:1 ratio for tidal wetland enhancement for the two basins in which the project areas are located. The Conservancy will request official closure of this project in 2007.

CB-6 Dragon Run (Calhoun 2; Piedmont Farms)

The purpose of this project is to conduct non-tidal wetland and associated upland buffer preservation and stream and the associated upland riparian buffer preservation at the Dragon Run (Calhoun 2; Piedmont Farms) site in Middlesex County. The funding for this project was approved by the Corps on February 1, 2005. The property was acquired by the Conservancy on July 13, 2005. Two additional adjacent properties (projects CB-3 and CB-7) were acquired in separate purchases. The Conservancy is currently negotiating with a conservation buyer to purchase the site with a Corps-approved conservation easement in place to provide long-term protection. The funds from the land sale will be returned to the general balance of the Fund. Long-term protection will be achieved through the monitoring and enforcement of

the conservation easement. No additional monitoring is required for this project.

The Dragon Run (Calhoun 2; Piedmont Farms) project is located north of State Route 602 Bridge, which crosses Dragon Run Swamp and is adjacent to the previously described Calhoun 1 Piedmont Farms project. Dragon Run is considered one of the finest examples of intact bottomland wetland forest in Virginia and is a focus of land protection of the Conservancy, as well as, the state and other conservation partners. Dragon Run flows through the remote heart of the largest intact forest in the Chesapeake Bay Lowland ecoregion. The system harbors more than 165 plant, 90 bird, 45 tree, and 55 fish species. Five rare natural communities and 22 rare animal and plant species have been identified within the system.

The project area is approximately 60.44 acres that are in a mixture of different uses including mature bottomland swamp, upland loblolly pine plantation forest, cleared timber land and unimproved dirt roads. A delineation of surface waters and wetlands of this property was conducted and confirmed by Corps in January 2006. The delineation identified 37.14 acres of wetland and an estimated 1,550 linear feet of the right bank of Dragon Run located on the property. A 200 foot "no-touch" buffer (7.12 acres) will be maintained from the outside limits of the stream and wetland system. The remaining 16.18 acres is upland that is preserved. The entire property (60.44 acres) is considered mitigation area. The Conservancy is negotiating a sale of the property with the mitigation areas subject to a conservation easement and will request official closure of the project upon finalization of the transaction.

CB-7 Dragon Run (Calhoun 3; Piedmont Farms)

The purpose of this project is to conduct non-tidal wetland and upland buffer preservation at the Dragon Run (Calhoun 3; Piedmont Farms) site in Middlesex County. The funding for this project was approved by the Corps on April 25, 2005. The property was acquired by the Conservancy on July 13, 2005. Two additional adjacent properties (projects CB-3 and CB-6) were acquired in separate purchases. The Conservancy is currently negotiating with a conservation buyer to purchase the site with a Corps-approved conservation easement in place to provide long-term protection. The funds from the land sale will be returned to the general balance of the Fund. Long-term protection will be achieved through the monitoring and enforcement of the conservation easement. No additional monitoring is required for this project.

The Dragon Run (Calhoun 3; Piedmont Farms) project is located north of Rt. 602 Bridge, which crosses Dragon Run Swamp and provides access and connectivity to the Calhoun 1 and 2 parcels that were previously acquired. Dragon Run is considered one of the finest examples of intact bottomland wetland forest in Virginia and is a focus of land protection of the Conservancy, as well as, the state and other conservation partners. Dragon Run flows through the remote heart of the largest intact forest in the Chesapeake Bay Lowland ecoregion. The system harbors more than 165 plant, 90 bird, 45 tree, and 55 fish species. Five rare natural communities and 22 rare animal and plant species have been identified within the system.

A delineation of surface waters and wetlands of this property was conducted and confirmed by Corps in January 2006. The project area is approximately 3.70 acres that consists of 3.49 acres of forested wetland and 0.21 acres of upland loblolly pine plantation forest and dirt roads, all of which is considered mitigation area. The Conservancy is negotiating a sale of the property with the mitigation areas subject to a conservation easement and will request official closure of the project upon finalization of the transaction.

CB-8/YK-4 Upper Crab Neck (BP America)

The purpose of this project is to conduct non-tidal wetland and upland buffer preservation at the Upper

Crab Neck (BP America) site in York County. The funding for this project was approved by the Corps on April 21, 2005. The property was donated to the Conservancy by BP America on May 11, 2006. The Conservancy plans to transfer this site to the Virginia Department of Game and Inland Fisheries (DGIF) subject to Corps approval of the deed restriction. No additional monitoring is required for this project.

The Upper Crab Neck (BP America) property is located in Seaford, approximately 3 miles south of Yorktown and is an excellent example of a "non-riverine saturated forest." The site preserves an increasingly rare forested wetland community and protects the nearby Bay waters from degradation. Migratory fish such as American shad, hickory shad, alewife, blueback herring and striped bass use the Lower York and its tributaries, the Mattaponi and Pamunkey Rivers, for reproduction. In addition, this part of the York River is the gateway to one of the largest and most historic fisheries on the East Coast and is an essential place for migratory birds. The site is situated at a natural drainage divide such that the majority of the property drains to the Chesapeake Bay Basin, while a smaller portion drains south to the main stem of the York River Basin. The 653.7-acre property contains a large intact forested wetland (428.5 ac) with mature wooded uplands.

A delineation of surface waters and wetlands was confirmed by the Corps in April 2002 and the mapping from this delineation was used to estimate wetland and upland acres in Chesapeake Bay Basin and York River Basin using a GIS. The Conservancy is negotiating a transfer of the property, and will request official closure of the project once the transfer is completed.

CB-9 Guinea Neck Site

The purpose of this project is to conduct a feasibility study to address the potential for non-tidal wetland restoration and creation and upland buffer restoration at a property in Gloucester County. The funding request to complete a feasibility study for the site was approved by the Corps on June 1, 2006, and the feasibility study was completed in July of 2006.

The property is approximately 18 acres that is located in the lowlands of Guinea Neck. The property contained several home structures that were damaged from Hurricane Isabel in 2003, which is when the agricultural fields were allowed to become fallow. The farm fields include converted wetlands and a portion of the property contains a tidal creek which drains to Blevins Creek and eventually Mobjack Bay.

The feasibility report indicated several conditions that posed a high risk to achieving the objectives of non-tidal forested wetland restoration including the presence of invasive species on and adjacent to the site (*Phragmites* and *Typha*), potential for salt water intrusion and storm surge, poor soil macronutrient levels, and a lack of knowledge of groundwater levels. In addition, the cost of acquisition, implementation and management of the project was estimated to be relatively high and there was a time constraint on acquisition. Based upon the information that was collected in the feasibility study and the circumstances related to acquisition, the Conservancy determined this was not a favorable wetland mitigation opportunity and elected not to pursue any further activities for this project. The Conservancy will request official closure of this project in 2007.

CB-10 East River (Brooks/Ober)

The purpose of this project is to conduct a feasibility study to address the potential for non-tidal wetland restoration and creation and upland buffer restoration and to support acquisition activities at the East River (Brooks/Ober) property in Mathews County. The funding request to complete a feasibility study for the site and to support acquisition activities was approved by the Corps on October 5, 2006. The feasibility study was completed December 20, 2006. The project involves a donation of a conservation easement to the Middle Peninsula Land Trust (MPLT) and donation of fee simple interest to the

Conservancy. Long-term protection will be achieved through the monitoring and enforcement of the easement by the MPLT.

The East River (Brooks/Ober) property is located off of State Route 605 in Mathews County. The site is 40.24 acres with approximately 16.16 acres in active cropland (corn and soybean rotation) and the balance in a mixture of forested upland and wetlands. The agricultural field was converted to agricultural uses through deforestation and installation of several ditches on the north, east and south edges of the field, as well as the southern edge and extending into the forest interior. These ditches drain directly to two tributaries that discharge to the East River. GIS mapping and field verification have identified prevalent hydric soils throughout the agricultural field, with non-hydric soils located at the west and east field edges.

A delineation of surface waters and wetlands was completed and submitted to the Corps on December 20, 2006. This delineation identified 5.87 acres of forested wetlands on the property; however, this must be confirmed by the Corps. The conceptual mitigation plan indicates that perhaps as much as 14 wetland mitigation credits may be developed on the site; however, a better understanding of seasonal groundwater levels is critical to the design. Based upon the information that was collected in the feasibility, the Conservancy determined it is a suitable non-tidal wetland mitigation opportunity and will pursue a proposal for further funding for the project in 2007.

CB-11 Dragon Run Site

The purpose of this project is to conduct non-tidal wetland and associated upland buffer preservation and stream and the associated upland riparian buffer preservation at this site in King and Queen County. The funding for this project was approved by the Corps on December 7, 2006. The property is pending closure of the land acquisition by the Friends of Dragon Run. Long-term protection will be achieved through a conservation easement placed on the property with the Virginia Outdoors Foundation (VOF). Long-term protection of the site will be accomplished through the monitoring and enforcement of the easement by VOF. No additional monitoring is required for this project.

The property is located along Dragon Run River and Mill Race, a smaller tributary in King and Queen County. Dragon Run is considered one of the finest examples of intact bottomland wetland forest in Virginia and is a focus of land protection of the Conservancy, as well as, the state and other conservation partners. Dragon Run flows through the remote heart of the largest intact forest in the Chesapeake Bay Lowland ecoregion. The system harbors more than 165 plant, 90 bird, 45 tree, and 55 fish species. Five rare natural communities and 22 rare animal and plant species have been identified within the system.

The site is 52.0 acres with an approximately 35.0 acre wetland complex along Dragon Run that has not been disturbed in over 100 years. The upland portions of the site (~13.40 acres) were clearcut by the landowner during 2005; however, buffers were left along Mill Race and wetlands.

Stream mitigation consists of the preservation of a 200 foot mature forested riparian buffer along the right bank of approximately 800 linear feet (3.60 acres) of Dragon Run at the southern end of the property. This avoids the "double-dipping" issue for claiming the wetland credits proposed above. A confirmed delineation of the site is required to determine mitigation credit. The Conservancy anticipates closing the project in 2007.

CB-12 Guilford Shores Site

The purpose of this project is to conduct tidal wetland, non-tidal wetland, and upland buffer preservation at a site in Accomack County. The initial funding for this project was approved by the Corps on

December 7, 2006. A donated conservation easement to the Conservancy providing long-term protection is pending closure. No additional monitoring is required for this project.

The property is located off of State Route 682 in Accomack County. The site is 128.5 acres situated at the confluence of Young Creek to the southwest and Guilford Creek to the north. Access to the property is extremely difficult as there are no roads or well marked trails through the woods. The woods contain excellent migratory bird habitat with many understory levels providing excellent vegetated vertical structure for foraging birds. Such habitats are especially important for the young of the year songbirds during migration, as they are known to circle back up the bayside shore during migration as they delay crossing the mouth of the Chesapeake on their journey south. The migrants that use the property and its associated wetland and upland habitats include virtually the whole complement of neotropical and temperate songbirds and raptors of the Atlantic Flyway. Among the most important species that will benefit directly from this project are the seaside and salt marsh sharp-tailed sparrows, mallards, American black ducks, black rails, and northern harriers. Osprey is also common to the area, as are red-tailed hawks and American kestrels. Sharp-shinned hawks, merlins, bald eagles (federally and state threatened), short-eared owls, and Northern saw-whet owls (state species of concern), are among the other raptors known to the property. Peregrine falcons (state threatened) use the area for foraging during migration.

The majority of the property consists of tidal salt marsh (75.0 acres) while National Wetlands Inventory (NWI) mapping indicates approximately 22.0 acres of forested wetlands and 31.5 acres of uplands. A confirmed delineation of the site is required to determine mitigation credit. The Conservancy anticipates closing the project in 2007.

Chowan River Basin

The Chowan River Basin is comprised of five HUCs (03010201, 03010202, 03010203, 03010204, and 03010205) located in southeastern Virginia extending into northeastern North Carolina. It encompasses the northernmost portion of the Albermarle-Pamilico and is among the best developed embayed wetland environments of the outer Mid-Atlantic Coastal Plain Ecoregion estuary and includes much of the original extent of the Great Dismal Swamp. Conservation targets include blackwater swamp aquatic system, riverine and basin swamp forest, brownwater tributaries and rivers, Atlantic white cedar swamp, bottomland hardwood forest, Roanoke logperch, Atlantic pigtoe, red cockaded woodpecker, and seepage wetlands.

The projects discussed in this section serve as mitigation for permitted impacts within the Chowan River Basin for which the Fund was used as compensatory mitigation. Through 2006, the Conservancy has requested funds to pursue thirteen mitigation projects in this basin. The Corps has authorized funds for all thirteen projects. Twelve projects provide mitigation for permitted impacts to non-tidal wetlands, and one project (CB-5/CH-12) provides mitigation for permitted impacts to tidal wetlands.

Due to a hydrological modification at the site, one of the non-tidal wetland projects (CH-9/LJ-4) mitigates for impacts within both the Chowan River Basin and the Lower James River Basin. Due to the location of the site, one of the non-tidal wetland projects (CB-5/CH-12) mitigates for impacts within both the Chowan River Basin and the Chesapeake Bay Basin. The total funds authorized by the Corps and crediting value for these projects have been appropriately divided between the respective basins.

The following table provides a summary of projects for which fund were approved in the Chowan River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. A detailed summary of each project is included in the section below.

Table 32: Approved Project Summary for the Chowan River Basin.

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)
CH-1	Northwest River (Kellam Rigato)	M	12/20/95	37,020.00	0.00	0.00
CH-2	North Landing River (Onesimus Ministries)	M	6/30/97	24,325.00	0.00	0.00
CH-3	Dismal Swamp (Bruff)	M	10/27/97	37,000.00	0.00	0.00
CH-4	North Landing River (Mayo)	M	8/28/98	8,800.00	0.00	0.00
CH-5	Northwest River (Benefits)	M	10/13/98	331,214.88	0.00	0.00
CH-6	Northwest River (Hall)	M	5/26/99	143,203.88	0.00	0.00
CH-7	Nawney Creek (Knight)	M	5/23/00	120,110.37	0.00	0.00
CH-8	Northwest River (Su)	M	3/16/01	395,230.10	0.00	0.00
CH-9 / LJ-4	Northwest River (Stephens)	M	7/17/02	625,000.00	0.00	0.00
CH-10	Northwest River (Powers)	M	3/7/03	333,341.00	0.00	0.00
		M	10/27/04	20,000.00	0.00	0.00
CH-11	Nawney Creek (Fentress)	M	12/19/03	135,000.00	0.00	0.00
CB-5 / CH-12	Eastern Virginia Phragmites Control	M	8/30/02	0.00	20,000.00	0.00
			9/9/03	0.00	20,000.00	0.00
			8/31/04	0.00	12,666.25	0.00
CH-13	Northwest River (SP Forests, LLC)	M	2/2/06	366,700.00	0.00	0.00
			Totals	**2,576,945.23**	**52,666.25**	**0.00**
			Grand Total	**2,629,611.48**		

M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey

The following tables summarize the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal and tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Chowan River Basin. In addition, the tables provide the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted.

Table 33: Non-Tidal Wetland Project Summary for the Chowan River Basin.

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed
Project ID	**Status**	**Rest/Cr**	**Pres**	**Enh**	**Rest**	**Pres**	**Acres**	**Credits**
CH-1	D		125.34			40.55	165.89	14.56
CH-2	PC		51.80			2.40	54.20	5.30
CH-3	M	3.07			6.93		10.00	3.53
CH-4	PC		9.45			3.75	13.20	1.13
CH-5	D	11.96	745.98	15.02		25.10	798.06	92.82
CH-6	M	25.00			2.00	3.80	30.80	25.32
CH-7	M	8.00			10.00		18.00	8.67
CH-8	M,CA	49.00	73.28		4.00	7.00	133.28	56.94
CH-9/LJ-4	M,CA	61.00	112.10		10.00	2.80	185.90	73.02
CH-10	M,D,CA	25.25	97.10		0.50	60.15	183.00	38.00
CH-11	M,CA	19.00			3.79		22.79	19.25
CH-13	P	27.5	122.5				150.00	39.75
Sub-totals		**229.78**	**1,212.21**	**15.02**	**37.22**	**145.55**	**1,765.12**	**378.30**

Total Acres of Tidal Impacts	**33.44**
Total Mitigation Liability	**59.86**
Total Proposed Credits	**378.30**
Percent of Wetland Acreage Replacement	**687.1**

LP - Pending finalization of land protection	I - Restoration/Enhancement/Creation activities in progress
P - Planning / permitting	M - Mitigation monitoring
D - Pending delineation / assessment	CA - Corrective actions necessary
	PC - Pending project closure

Table 34: Tidal Wetland Project Summary for the Chowan River Basin.

Project Information		Salt Marsh	SAV	Oyster	Tidal	Tidal	Mitigation	Proposed
Project #	**Status**	**Rest**	**Rest**	**Rest**	**Enh**	**Pres**	**Acres**	**Credits**
CB-5/CH12	PC				70.00		70.00	1.40
Acre Sub-totals		**0.00**	**0.00**	**0.00**	**70.00**	**0.00**	**70.00**	**1.40**
Credit Sub-totals		**0.00**	**0.00**	**0.00**	**1.40**	**0.00**		

Total Acres of Tidal Impacts	**0.01**
Total Mitigation Liability	**0.01**
Total Proposed Credits	**1.40**
Percent of Wetland Acreage Replacement	**0.0**

LP - Pending finalization of land protection	I - Restoration/Enhancement/Creation activities in progress
P - Planning / permitting	M - Mitigation monitoring
D - Pending delineation / assessment	CA - Corrective actions necessary
	PC - Pending project closure

As noted in Section II, the Fund has been used to mitigate for 911 linear feet of permitted stream impacts in the Chowan River Basin through 2006. To date, the Conservancy has not requested any funds for stream mitigation projects in the Chowan River Basin.

Project Summaries

The following section provides a detailed summary of each project located within the Chowan River Basin for which the Corps authorized funds through 2006. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

CH-1 Northwest River (Kellam Rigato)

The purpose of this project is to conduct non-tidal wetland and upland buffer preservation at the Northwest River (Kellam Rigato) property in the City of Chesapeake. The funding for this project was approved by the Corps on December 20, 1995. The site was purchased by the Conservancy on December 22, 1995. Long-term protection is achieved through Conservancy ownership. No additional monitoring is required for this project.

The Northwest River (Kellam Rigato) property is located on the Northwest River east of Route 168 approximately one mile north of the Virginia and North Carolina border. This property is 165.89 acres the majority of which is forested wetland. The land adjacent to this site had been timbered and there was a threat that this property could be deforested as well. This site adds to the protection of wetlands and uplands within the Northwest River corridor which is a conservation focus of the Conservancy. A confirmed delineation of the site is required to determine mitigation credit. The Conservancy anticipates closing the project in 2007.

CH-2 North Landing River (Onesimus Ministries)

The purpose of this project is to conduct non-tidal wetland and upland buffer preservation at the North Landing River (Onesimus Ministries) property in Chesapeake. The funding for this project was approved by the Corps on June 30, 1997. The site was purchased by the Conservancy on November 24, 1997. Long-term protection is achieved through Conservancy ownership. No additional monitoring is required for this project.

The property, located within the floodplain of Pocaty Creek, was identified by the Conservancy as a high priority wetland preservation area. The majority of the property contains forested wetlands largely dominated by Water tupelo gum (*Nyssa aquatica*) and Bald cypress (*Taxodium distichum*). These are unique wetland resources because they are affected by seasonal wind tides. In fact, an inventory by the Virginia Department of Conservation and Recreation (DCR) Natural Heritage Program that was conducted in the 1990's found the wetlands of the North Landing and Northwest River systems to be the most biologically diverse sites in Virginia east of the Blue Ridge Mountains. This project extends the Conservancy's North Landing River preserve up Pocaty Creek toward a 250-acre Natural Resources Conservation Service (NRCS) wetland restoration project providing a critical wildlife corridor.

A delineation of surface waters was conducted by the Conservancy and confirmed by Corps in 2003. The property is 54.20 acres including 51.8 acres of forested wetland preservation and 2.40 acres of forested upland buffer. The Conservancy will request official closure of this project in 2007.

CH-3 Dismal Swamp (Bruff)
The purpose of this project is to conduct non-tidal wetland restoration and upland buffer restoration at the Dismal Swamp (Bruff) property in Suffolk County. The funding for this project was approved by the Corps on October 27, 1997. The site was purchased by the Conservancy on January 20, 1998. The site will be transferred with an approved protective instrument to the United States Fish and Wildlife Service (FWS) after the monitoring period.

The Dismal Swamp (Bruff) property is located on the Dismal Swamp scarp within ¼ mile south of the Great Dismal Swamp National Wildlife Refuge office off of Desert Road in Suffolk. The project represents a cooperative effort between the Corps, the Conservancy, and FWS who will ultimately own the site and manage it with the rest of the Great Dismal Swamp National Wildlife Refuge (GDSNWR) pending approval and release of the project by Corps. This site was included in a study conducted by a graduate student from Virginia Tech, the results of which have produced a master's thesis and a journal article related to soil science and wetland restoration. Finally, technicians from the Virginia Institute of Marine Science (VIMS) monitored shallow groundwater wells at this site to help support the development of a Hydrogeomorphic Model for deciduous hardwood flat wetlands.

The property consists of 10 acres of farmland. A portion of the site was drained by a ditch to north of the agricultural fields. Initial planning identified as much as 5 acres that could be restored by eliminating the drainage from this ditch. The natural community type for restoration is non-riverine wet hardwood forest and the primary functions to be restored include wildlife habitat, water quality enhancement, as well as expanding the footprint of GDSNWR. Water control structures were installed in the collector ditch in 1999, several lateral ditches in the fields were plugged, and the fields were planted to native wetland hardwoods. The original agreement pertaining to monitoring was to have the partners complete complementary sections of the site monitoring; however, no specific monitoring standards or success criteria were assigned to the project by the Corps. Virginia Tech and VIMS installed and maintained 12 automatic recording shallow groundwater wells both in the agricultural fields and in the adjacent forest from 2000 through 2003 and FWS conducted vegetation monitoring of the planted seedlings during the second year. The Conservancy collected hydrology and vegetation information in 2005 and 2006. Based upon the information collected from the site thus far the scope of the wetland restoration portion of the project was reduced to 3 acres as hydrological restoration of certain areas appears to be doubtful. The site was naturally colonized by a large number of loblolly pines which were overcrowding the planted and naturally colonizing hardwood seedlings; therefore, the FWS sponsored a thinning of the pine during the winter of 2005 in the effort to release the remaining hardwoods from competition and this appears to have been successful. This is the seventh year post construction and mitigation monitoring is scheduled through 2009 with reports submitted to the Corps.

CH-4 North Landing River (Mayo)
The purpose of this project is to conduct non-tidal wetland and upland buffer preservation at the North Landing River (Mayo) property in Chesapeake. The funding for this project was approved by the Corps on August 28, 1998. The site was purchased by the Conservancy on October 15, 1998. Long-term protection is achieved through Conservancy ownership. No additional monitoring is required for this project.

The property, located within the floodplain of Pocaty Creek, was identified by the Conservancy as a high priority wetland preservation area. The majority of the property contains forested wetlands largely dominated by Water tupelo gum (*Nyssa aquatica*) and Bald cypress (*Taxodium distichum*). These are unique wetland resources because they are affected by seasonal wind tides. In fact, an inventory by the Virginia Department of Conservation and Recreation (DCR) Natural Heritage Program that was conducted in the 1990's found the wetlands of the North Landing and Northwest River systems to be the

most biologically diverse sites in Virginia east of the Blue Ridge Mountains. This project extends the Conservancy's North Landing River preserve up Pocaty Creek toward a 250-acre Natural Resources Conservation Service (NRCS) wetland restoration project providing a critical wildlife corridor.

A delineation of surface waters was conducted by the Conservancy and approved by Corps in 2003. The property is 13.20 acres with 9.45 acres of forested wetland preservation with 3.75 acres of forested upland buffer. The Conservancy will request official closure of this project in 2007.

CH-5 Northwest River (Benefits)

The purpose of this project is to conduct non-tidal wetland restoration, and enhancement and non-tidal wetland and upland buffer preservation at the Northwest River (Benefits) property in southern Chesapeake. The funding for this project was approved by the Corps on October 13, 1998. The site was purchased by the Conservancy on December 17, 1998 and long-term protection is achieved through this ownership. Two adjacent properties (projects CH-6 and CH-8) were acquired in separate purchases, both of which involve significant wetland restoration acres. This is the seventh year post construction and mitigation monitoring is scheduled through 2007 with reports submitted to the Corps.

The Northwest River (Benefits) property is located in southern Chesapeake on a tributary to the Northwest River. The Conservancy acquired the property in three separate transactions comprises approximately 798 acres of predominantly forested wetlands. This property represents one of the last large, contiguous forest blocks that can be protected in an area that was historically called the "Green Sea" due to its vast unbroken complex of forest swamps and marshes. The wetland upland complex provides interior forest habitat that may be utilized by neo-tropical migratory bird species and unique wildlife such as Canebrake Rattlesnakes (*Crotalus horridus*), American Black Bears (*Ursus americanus*) and Least Trillium (*Trillium pusillum* var. *virginianum*) are known to inhabit this site. This site contributes to a +1,200-acre protected land corridor from Hall (CH-6) and Su (CH-8) through to an adjacent mitigation bank on the Northwest River.

A large ditch and road complex existed on the site draining nearly 12 acres of the forest immediately adjacent to the ditch. In the summer of 2000 the ditch was plugged in six locations initiating restoration of the drained forest area. Automatic recording shallow groundwater monitoring wells were installed in 2000 to monitor the hydrological restoration, which based upon the results to date has been very successful. Because success for this site is confined to hydrology and the site has exceeded the critical threshold for wetlands hydrology at each station in most years under a variety of climatic conditions (including very dry), the Conservancy will seek to close the monitoring aspect of this project in 2007. A confirmed delineation of the site is required to determine mitigation credit.

CH-6 Northwest River (Hall)

The purpose of this project is to conduct non-tidal wetland and upland buffer restoration and upland buffer preservation at the Northwest River (Hall) property in southern Chesapeake. The funding for this project was approved by the Corps on May 26, 1999. The site was purchased by the Conservancy on December 17, 1998 and long-term protection is achieved through this ownership. Two adjacent properties (projects CH-5 and CH-8) were acquired in separate purchases, together representing significant wetland restoration and preservation acres.

The Hall Property is 30.80 acres and in contrast to the relatively undisturbed, forested wetland condition of Benefits property the majority of the Hall property was actively drained and maintained as farmland. This site contributes to a +1,200-acre protected land corridor from Benefits (CH-5) and Su (CH-8) through the Davis/Tseng mitigation bank, to the Northwest River. Historically this mineral flat area was

connected to the Great Dismal Swamp and sustained non-riverine wet hardwood forest. Approximately 27 acres of cropland and 4 acres of adjacent forest were drained by a complex of 9 lateral field ditches that led to a major collector ditch representing an opportunity for wetland restoration. The objectives of this project are to restore/establish 25 acres of forested wetland, restore 2 acres of upland buffer and preserve 3.80 acres of forested upland. The natural community type for restoration is non-riverine wet hardwood forest and the primary functions to be restored include wildlife habitat and water quality enhancement.

In 2001 all the lateral field ditches at this site were filled, several deeper borrow areas were created, and a containment berm separating the fields from the collector ditch (which could not be plugged) was constructed. The fields on the site were planted with 6,000 various hardwood wetland trees. Automatic recording shallow groundwater monitoring wells were installed in the fields and adjacent forest in 2001 and have been used to monitor the hydrological restoration annually. Planted seedling survival was measured along transects, and other vegetation monitoring (estimates of colonizing seedling density and estimates of herbaceous cover) was conducted within vegetation plots. Monitoring results for the first six years of shallow groundwater monitoring demonstrate that the site hydrology is dependent upon climate factors including the amount and distribution of precipitation and temperature, which is typical of groundwater maintained wetlands. The shallow groundwater wells have exceeded the critical threshold for wetlands hydrology at each station in most years. Across the majority of the site planted seedling survival in combination with naturally colonizing seedlings well-exceeds 400 stems per acre and are composed primarily of native, wetland species. Based upon soil sampling conducted prior to the wetland restoration activities, there is a slight ridge of approximately 5 acres that did not exhibit hydric soils criteria, but where shallow groundwater wells indicate wetland hydrology is present. Thus, this area must be carefully evaluated during the final site delineation to confirm/determine the extent to which wetlands are established. This is the sixth year post construction and mitigation monitoring is scheduled through 2010 with reports submitted to the Corps.

CH-7 Nawney Creek (Knight)

The purpose of this project is to conduct non-tidal wetland and upland buffer restoration at the Nawney Creek (Knight) property in Virginia Beach. The funding for this project was approved by the Corps on May 23, 2000. The site was purchased by the Conservancy on September 27, 2000, and long-term protection is achieved through this ownership.

The Nawney Creek (Knight) property is located on Princess Anne Road in the City of Virginia Beach approximately ¼ mile northeast of the community of Back Bay. The 18 acre property consisted of eleven agricultural fields separated by ditches that were primarily in soybean production. The site was considered an important acquisition within the Back Bay sub-watershed, which is quickly developing. The initial objectives of the project included restoration of 17.0 acres non-riverine wet hardwood forest and one acre of Mesic mixed forest and the primary functions to be restored include wildlife habitat and water quality enhancement.

In early 2001 interior field ditches were plugged, a perimeter berm system was installed with a water control structure to retain surface water and to prevent flooding an adjacent property, limited grading to provide fill material for ditches and berms was completed, and 4,500 seedlings of various wetland hardwoods were planted. Five automatic recording shallow groundwater monitoring wells were installed in 2002 and monitored annually. Based upon site observations and the well data collected thus far there are portions of the site that fail to meet the Corps hydrology criteria in most years. These are primarily those areas that are adjacent to perimeter ditches or located at field crowns both areas which tend to support non-hydrophytic herbaceous vegetation and comprise up to 50% of the property. There is obvious wetland development in the vicinity of interior ditches that were plugged and are at slightly lower

elevations than field crowns as evidenced by prolonged standing water and the presence of a dominance of hydrophytes. Survival of planted seedlings is high and growth is good. Seedling density is below 400 stems per acre in most areas, but since no minimum density standard was prescribed to this project and because the surviving plantings are heavy mast, large canopy species (primarily oaks), the Conservancy does not recommend re-planting. While corrective action of hydrology through grading is a possibility such activities have a high risk of failure and would be relatively expensive. In light of these facts, the Conservancy reduced the scope of the wetland restoration acres to approximately 8.0 acres with the remaining 10.0 acres as upland restoration. This is the fifth year post construction and mitigation monitoring is scheduled through 2011 with reports submitted to the Corps.

CH-8 Northwest River (Su)

The purpose of this project is to conduct non-tidal wetland restoration and upland buffer restoration and non-tidal wetland and upland buffer preservation at the Northwest River (Su) property in southern Chesapeake. The funding for this project was approved by the Corps on March 16, 2001. The site was purchased by the Conservancy on April 28, 2000, and long-term protection is achieved through this ownership. Two adjacent properties (projects CH-5 and CH-6) were acquired in separate purchases, together representing significant wetland restoration and preservation acres.

The Northwest River (Su) property is 133.28 acres located in southern Chesapeake off of Benefit Road. The property contains approximately 73 acres of forest including forested wetlands and 60 acres of cropland. The objectives of this project are to restore up to 56 acres of primarily forested wetland (PFO1) and restore 4 acres of upland buffer, while preserving upland and forested wetland. The primary functions to be restored include wildlife habitat and water quality enhancement. This site contributes to a +1,200-acre protected land corridor from Benefits (CH-5) and Hall (CH-6) through the Davis/Tseng mitigation bank, to the Northwest River. Historically this mineral flat area was connected to the Great Dismal Swamp and sustained Non-Riverine wet hardwood forest. Virginia Least Trillium (*Trillium pusillum* var. *virginianum*) and Canebrake rattlesnake have been observed on this site. The Conservancy used National Wetlands Inventory (NWI) mapping and on-site investigation to estimate wetland extent, but must secure a confirmed delineation of surface waters and wetlands to determine the jurisdictional wetland acres and upland acres preserved by this acquisition that can be utilized as mitigation.

Wetland and habitat restoration efforts began in 2001 and included plugging of field ditches, creation of several seasonally flooded ponds, construction of a berm system, and planting of 15,000 bare root seedlings in the agricultural fields. Additionally several ditches were plugged within the forested area of this site. Eight automatic recording shallow groundwater monitoring wells were installed in 2002 and monitored annually. In addition 8 manually read shallow groundwater wells were installed in 2003 and have been monitored when capacity allows. On the whole hydrological monitoring results for the first five years indicate that the majority of the restoration area of the site (~49 acres) is saturated to a depth and duration during the growing season so as to support the wetland hydrology criteria under normal conditions. Seedling densities including planted and volunteer species differ depending upon hydroperiod with higher densities occurring in drier areas of the site and lower densities in wetter areas of the site. Monitoring and observations of the vegetation development on the site indicate that Loblolly pine is colonizing in large numbers particularly in the drier areas of the site (~5 acres); however, the majority of other colonizing woody sapling species are native, wetland plants. An approximately 2.8-acre area is has been invaded by cattail (*Typha latifolia*). While this is not considered a threat to the majority of the site, which is developing a dense sapling layer, without management in the affected areas the goal of establishing forested wetland may not be achieved. Also, pine thinning operations within roughly one-half of the site would increase the dominance of hardwood saplings. The Conservancy is investigating the cost and timing of these treatments. Generally, given the favorable hydrological and vegetation monitoring thus far, the Conservancy expects approximately 49.0 acres to continue to meet wetland

criteria. This is the fifth year post construction and mitigation monitoring is scheduled through 2011 with reports submitted to the Corps.

CH-9/LJ-4 Northwest River (Stephens)

The purpose of this project is to conduct non-tidal wetland restoration and upland buffer restoration and non-tidal wetland and upland buffer preservation at the Northwest River (Stephens) property in Chesapeake. The funding for this project was approved by the Corps on July 17, 2002. The Conservancy proposed to restore wetlands and uplands through site modifications and to preserve wetlands and uplands. The site was purchased by the Conservancy on November 15, 2002, and long-term protection is achieved through this ownership.

The Northwest River (Stephens) tract is located off of Cornland Road in Chesapeake. The property is an important contributor to a northern spur corridor connecting the Northwest River and the Great Dismal Swamp National Wildlife Refuge. This site added 366 acres to the approximately 1,000-acre Green Sea preserve which includes Benefits (CH-5), Hall (CH-6), and Su (CH-8) tracts. Historically this mineral flat area was connected to the Great Dismal Swamp and sustained Non-Riverine wet hardwood forest. The Stephens parcel contains 226 acres of forested wetland with 142 acres of converted agricultural land. The objective of the Stephens project is to restore the 142 acres of cropland to a mixture of forested wetland (122 acres) and forested upland buffer (20 acres). The primary functions to be restored include wildlife habitat and water quality enhancement. Although it is located within the 03010205 HUC, a large portion of the site drains to the Dismal Swamp Canal, one of the largest tributaries to the Elizabeth River (HUC 2080206), thus this project and the associated wetland mitigation is evenly split among those two river basins.

In 2003 the site was planted with 50,500 bare root seedlings and 6,000 shrubs and in 2004 interior field ditches were plugged, and a perimeter berm system was constructed. Automatic recording shallow groundwater monitoring wells were installed in 2004 in representative locations and several hand monitored shallow groundwater wells used for site evaluation in 2003 were retained for monitoring. Annual shallow groundwater monitoring indicates that much of the site exceeds the target threshold for hydrology under normal conditions, although well stations that are located in close proximity to unplugged perimeter ditches experience the least promising hydrology results. While this drainage was anticipated, continued monitoring is necessary to determine the extent of drainage that prevents wetland establishment. Survival of planted seedlings is high within much of the site and many species displayed fairly vigorous growth. Red maple and sweet gum are the dominant colonizing, volunteer woody species across the entire site. This is most obvious at the north end of the restoration fields adjacent to a mature forest line and a large ditch which the Conservancy was not permitted to block where colonizing seedlings are out-competing planted seedlings. However, based upon the monitoring the majority of woody species that will comprise the dominant stratum of the site are native wetland plants. The Conservancy observed three structural failures at the northern edge of the field where ditch blockages placed in front of culverts are leaking, perhaps resulting in limited drainage of the field. The Conservancy proposes to have a contractor complete the necessary site adjustments during 2007. This is the third year post construction and mitigation monitoring is scheduled through 2013 with reports submitted to the Corps.

CH-10 Northwest River (Powers)

The purpose of this project is to conduct non-tidal wetland restoration and non-tidal wetland and upland buffer preservation at the Northwest River (Powers) property in Chesapeake. The initial funding for this project was approved by the Corps on March 7, 2003. The Conservancy requested additional funding for acquisition and restoration, which was authorized by the Corps on October 27, 2003. The site was

purchased by the Conservancy on January 31, 2001 and the site has been designated as a Natural Area Preserve under the management of Department of Conservation and Recreation (DCR).

The Northwest River (Powers) tract is located in Chesapeake, off of Ballahack Road, less than one mile west of the Route 168 Northwest River crossing. The property is 183.00 acres with 25.75 acres of prior-converted farmland and the balance is a mix of bottomland hardwood wetland and mixed upland forest with frontage on Dolley Creek, a tributary of the Northwest River. The tract was identified by the Conservancy as a priority tract for protection within the Northwest River corridor. The goal of this project is to restore the pre-ditched hydrologic regime and wetland vegetative structure of 20.75 acres of former agricultural fields to forested wetlands and 4.5 acres to scrub-shrub wetlands that will be maintained within a power line right of way and 0.5 acres of upland restoration. The natural community type for restoration is Non-Riverine wet hardwood forest and the primary functions to be restored include wildlife habitat and water quality enhancement. The northern section of the property is forested and contains approximately 97 acres of forested wetland and 60 acres of forested upland that may be preserved.

A closely spaced ditch network drained the agricultural fields on the site. In late 2004 the ditches in the agricultural fields were filled, the fields were graded to remove field crowns, and a perimeter berm was installed to prevent flooding adjacent properties. In early 2005 the restoration site was planted with 6,300 and 2,800 bare root tree and shrub seedlings respectively. Five automatic recording shallow groundwater wells were installed in 2005. The first year of hydrological monitoring indicated that the majority of the site is meeting hydrological criteria under normal conditions; however, the extremely dry preceding conditions in 2006 resulted in deeper groundwater tables. Vegetation monitoring and site observations confirm that there is relatively high mortality of planted seedlings and moderate natural colonization of native wetland saplings. The results indicate that much of the project area is failing to meet planted seedling survival objectives while meeting stem density requirements when natural colonizing seedlings are included. The Conservancy will conduct a site assessment in 2007 to determine where corrective action is necessary. This is the second year post construction and mitigation monitoring is scheduled through 2014 with reports submitted to the Corps.

CH-11 Nawney Creek (Fentress)

The purpose of this project is to conduct non-tidal wetland and upland buffer restoration at the Nawney Creek (Fentress) property in Virginia Beach. The funding for this project was approved by the Corps on December 19, 2003. The site was purchased by the Conservancy on December 13, 2003, and long-term protection is achieved through this ownership. This is the third year post construction and mitigation monitoring is scheduled through 2013 with reports submitted to the Corps.

The Nawney Creek (Fentress) property is located on Princess Anne Road in the City of Virginia Beach, Virginia approximately ¼ mile northeast of the community of Back Bay. The Fentress property contains 22.79 acres of converted cropland that directly adjacent to the Nawney Creek (Knight) property (CH-7), which was acquired previously by the Conservancy and this expands the footprint for wetland restoration to approximately 40 acres. The objectives of the Fentress project are to restore 19.0 acres of forested wetland and 3.79 acres of upland buffer. The wetland restoration plan emphasized grading of field crowns and complete filling of interior field ditches in order to prevent the drainage effects that are being observed at the adjacent Knight tract. Historically the majority of this site likely sustained non-riverine wet hardwood forest and Mesic mixed forest and the primary functions to be restored include wildlife habitat and water quality enhancement.

In 2003, the site was rough leveled, a perimeter berm was constructed, and the berm between the two projects was breached in several locations to allow for hydrologic connectivity. In early 2004 the site was

planted with 5,500 bare root seedlings of seven wetland hardwood species. Approximately 1,100 seedlings were installed utilizing tree shelters and weed mats to improve survival. Five automatic recording shallow groundwater monitoring wells were installed prior to the 2004 growing season. Annual hydrology results thus far indicate that much of the site is meeting the hydrologic criteria, and in fact, there are large areas of the site where water ponds for a significant duration. Results thus far suggest that approximately three acres in the northwest and southeast portions of the project may not meet the hydrologic criteria under normal circumstances. Vegetation monitoring indicates that while the site is dominated in large part by hydrophytic vegetation, planted seedling survival is low and colonization by other woody species is similarly low. Seedling mortality was presumably caused by long-duration flooding in some areas of the site and intense wetland herb competition. The combination of high planted seedling mortality, low seedling natural recruitment, and invasion by cattail will prevent the site from meeting the proposed vegetation standards for forested wetland restoration. The Conservancy will conduct a site assessment in 2007 to determine the proper corrective action. This is the third year post construction and mitigation monitoring is scheduled through 2013 with reports submitted to the Corps.

CB-5/CH-12 Eastern Virginia Phragmites Control

A summary of the project details is included under the Chesapeake Bay Basin.

CH-13 Northwest River (SP Forests LLC)

The purpose of this project is to conduct non-tidal wetland restoration and preservation at the Northwest River (SP Forests, LLC) property in the City of Chesapeake. The funding for this project was approved by the Corps on February 2, 2006. An amended approval letter was issued by Corps on February 22, 2007. The Conservancy proposed to restore drained forest land by plugging a large ditch system and to preserve wetlands on 150 acres located within the 3,800-acre parcel. The site was purchased by the Virginia Department of Game and Inland Fisheries (DGIF) on September 13, 2006, and is managed as the Cavalier Wildlife Management Area.

The Cavalier Wildlife Management Area is approximately 3,800 acres that is located in southern Chesapeake off of Ballahack Road. This parcel is located within the historic range of the Great Dismal Swamp along the Virginia and North Carolina border and is dominated by organic and mineral soil wetlands. The property historically supported extensive stands of Atlantic White Cedar, non-riverine wet hardwood forest, other forested wetland communities and canebrakes. Extensive ditching since the mid-1900's significantly altered the hydrology of the property. DGIF has engaged in large-scale restoration projects on the property and the Northwest River (SP Forests LLC) project is part of that larger management for the 3,800-acre property. The Conservancy proposes to restore 27.5 acres of drained forest and preserve 122.5 acres of forested wetland located in the north-central interior portion of the property. A 10,000 linear foot ditch approximately 15 feet deep and 25 feet wide drains this portion of the property and discharges into Central Ditch which forms the property's western boundary. Central Ditch itself flows to the north and is a major tributary to the upper watershed of the Northwest River, the City of Chesapeake's main drinking water supply. A series of ditch plugs will be installed to restore the drained forest along the southern half of its length. This project is in the planning/permitting phases and has not been constructed.

Lower James River Basin

The Lower James River Basin is comprised of two HUCs (02080208 and 02080206) encompassing the portion of the James River from Richmond east to Norfolk. This basin is located within both the Conservancy's Mid-Atlantic Coastal Plain and the Chesapeake Bay Lowlands Ecoregions and is the focal area of several conservation groups, including the James River Association and the Chesapeake Bay Foundation, as well as, efforts of federal, state and local governments. Conservation targets include tidal freshwater and brackish marshes, Chesapeake Bay lowlands estuarine and stream systems, waterfowl and colonial nesting waterbirds, blue crabs, and spawning habitat for striped bass, shad, herring, and yellow perch.

The projects discussed in this section serve as mitigation for permitted impacts within the Lower James River Basin for which the Fund was used as compensatory mitigation. Through 2006, the Conservancy has requested funds to pursue nine mitigation projects in this basin. The Corps has authorized funds for all nine projects. Five projects (LJ-1, CH-9/LJ-4, LJ-6, LJ-7, and LJ-8) provide mitigation for permitted impacts to non-tidal wetlands, one project (LJ-3) provides mitigation for permitted impacts to tidal wetlands, and two projects (LJ-2 and LJ-9) provide mitigation for permitted impacts to streams. One of the projects (LJ-5) involved the authorization of funds to conduct a real estate appraisal of a property to pursue a potential non-tidal wetland mitigation project. Due to landowner constraints and the results of the appraisal, this project was not pursued.

Due to historical hydrology modifications, one of the non-tidal projects (CH-9/LJ-4) mitigates for impacts within both the Lower James River Basin and the Chowan River Basin. The total funds authorized by the Corps and crediting value for this project have been appropriately divided between the two basins.

The following table provides a summary of projects for which funds were approved in the Lower James River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. A detailed summary of each project is included in the section below.

Table 35: Approved Project Summary for the Lower James River Basin.

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)
LJ-1	Chickahominy River (Walters)	M	4/6/00	401,105.00	0.00	0.00
LJ-2	Chickahominy River (Cheswick Park)	M	9/10/01	0.00	0.00	15,000.00
LJ-3	VMRC Oyster Reef	M	7/12/02	0.00	50,650.00	0.00
CH-9 / LJ-4	Northwest River (Stephens)	M	7/17/02	625,000.00	0.00	0.00
LJ-5*	Isle of Wight Site	A	5/30/03	2,500.00	0.00	0.00
LJ-6	Chickahominy River (Rogers-Chenault)	M	12/14/04	149,450.00	0.00	0.00
LJ-7	Great Dismal Swamp NW Section Site	A	8/3/06	4,000.00	0.00	0.00
		AC, C	12/7/06	1,575,025.00	0.00	0.00
LJ-8	Lower Chickahominy River (Church Point Farm, LLC)	AC, M	12/15/06	49,786.00	0.00	0.00
LJ-9	James River Site	M	12/15/06	0.00	0.00	319,032.00
			Totals	**2,806,866.00**	**50,650.00**	**334,032.00**
			Grand Total	**3,191,548.00**		

* Project is no longer pursued due to landowner constraints or the results of feasibility studies.

M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey

The following tables summarize the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal and tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Lower James River Basin. In addition the tables provide the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The tables do not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

Table 36: Non-Tidal Wetland Project Summary for the Lower James River Basin.

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed	Additional
Project ID	Status	Rest/Cr	Pres	Enh	Rest	Pres	Acres	Credits	Protected Acreage
LJ-1	M,D,CA	20.00	198.00		23.00	32.78	273.78	42.97	
LJ-4/CH--9	M,CA	61.00	112.10		10.00	2.80	185.90	73.02	
LJ-6	PC		64.70			29.60	94.30	7.95	
LJ-7	LP,P	30.00	23.50	2.50	24.00	4.00	84.00	34.98	
LJ-8	D		383.00			47.30	430.30	40.67	514.00
Sub-totals		**111.00**	**583.30**	**2.50**	**57.00**	**116.48**	**1068.28**	**199.59**	**514.00**

Total Acres of Non-Tidal Impacts	**68.22**
Total Mitigation Liability	**130.57**
Total Proposed Credits	**199.59**
Percent of Wetland Acreage Replacement	**162.7**

LP - Pending finalization of land protection
P - Planning / permitting
D - Pending delineation / assessment
I - Restoration/Enhancement/Creation activities in progress
M - Mitigation monitoring
CA - Corrective actions necessary
PC - Pending project closure

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).

Table 37: Tidal Wetland Project Summary for the Lower James River Basin.

Project Information		Salt Marsh	SAV	Oyster	Tidal	Tidal	Mitigation	Proposed
Project #	Status	Rest	Rest	Rest	Enh	Pres	Acres	Credits
LJ-3	PC			0.34			0.34	0.07
Acre Sub-totals		**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.34**	**0.07**
Credit Sub-totals		**0.00**	**0.00**	**0.07**	**0.00**	**0.00**		

Total Acres of Tidal Impacts	**0.43**
Total Mitigation Liability	**0.43**
Total Proposed Credits	**0.07**
Percent of Wetland Acreage Replacement	**0.0**

LP - Pending finalization of land protection
P - Planning / permitting
D - Pending delineation / assessment
I - Restoration/Enhancement/Creation activities in progress
M - Mitigation monitoring
CA - Corrective actions necessary
PC - Pending project closure

As noted in Section II, the Fund has been used to mitigate for 17,891 linear feet of permitted stream impacts in the Lower James River Basin through 2006. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Lower James River Basin.

Table 38: Stream Project Summary for the Lower James River Basin.

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
LJ-2	PC	0.04	104	Stabilized a headcut with a series of step pools serving as grade control within an unnamed tributary to Upham Brook. Stream banks were shaped along 104 lf of channel to provide additional floodplain area.	0.00
LJ-9	LP, P	3.20	967	Priority 1 relocation of 967 lf of an unnamed tributary to Chisel Run. The relocated channel buffered by an existing mature forest ranging from 50 to 260 feet along each bank.	0.00
	Totals	**3.24**	**1,071**		**0.00**

ac - acre
lf - linear feet
LP - Pending finalization of land protection
P - Planning / permitting
D - Pending delineation / assessment
I - Restoration / Enhancement activities in progress
M - Mitigation monitoring
CA - Corrective actions necessary
PC - Pending project closure

* Project includes wetland mitigation.

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).

Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").

Project Summaries

The following section provides a detailed summary of each project located within the Lower James River Basin for which the Corps has authorized funds through 2006. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

LJ-1 Chickahominy River (Walters)

The purpose of this project is to conduct non-tidal wetland restoration and upland buffer restoration and non-tidal wetland and upland buffer preservation at the Chickahominy River (Walters) property near Midlothian. The funding for this project was approved by the Corps on April 6, 2000. The site was purchased by the Conservancy on July 13, 2000, which provides long-term protection of the property.

The Chickahominy River (Walters) property is located off of Creighton Road in Henrico County adjacent to the Chickahominy Swamp. The Chickahominy Swamp system is important for migratory fish, such as striped bass, shad, herring, and yellow perch. The proximity of Richmond to this area has led to increasing development pressures on the system. Development within the watershed has also increased sediment and nutrient loadings to the river. The nearly 274-acre site consisted of a mixture of abandoned river meanders, swampland and six agricultural fields. Based on landscape setting, hydrology, and analysis of vegetation in surrounding areas, the appropriate ecological community groups to target for restoration of the agricultural fields on this site are alluvial floodplain - Coastal Plain/Piedmont bottomland forest and Mesic mixed hardwood forest. The objectives of this project are to restore 20 acres of forested wetland and restore 23 acres of upland buffer in addition to preservation of 198 acres of wetland and 32.8 acres of upland. A delineation of surface waters and wetlands is pending confirmation.

Wetland and habitat restoration efforts began in late 2001 and were completed in early 2002 and included blocking ditches, contour plowing the agricultural fields to minimize surface water runoff, and planting 13,000 bare root seedlings of various native hydrophytic species. Wetland monitoring was initiated in 2002 with the installation of seven automatic recording shallow groundwater wells and in 2003 with six manually read wells. Hydrological monitoring results for the first five years indicate that the majority of the restoration area of the site is saturated to a depth and duration during the growing season so as to support the wetland hydrology criteria under normal conditions. Considerable natural colonization by volunteer woody species was both noted during field observations and supported by monitoring data. Density of seedlings estimated in vegetation plots exceeds 400 stems per acre with most abundant species including red maple, sweet gum, bald cypress and willow oak. Assessment of herbaceous cover in randomly located subplots indicated a predominance of hydrophytic vegetation. Investigations of soils, hydrology and vegetation in the wetland restoration areas at the property demonstrate that a forested wetland community is becoming established in those areas. However, certain portions of the site are affected by invasive species and in 2003 and 2004 several different woody invasive species (Tree of heaven and Multiflora rose) were located, cut and sprayed with herbicide. This corrective action has largely contained the woody invasive problem, but the presence of Japanese honeysuckle (*Lonicera japonica*) has increased in upland portions of the site and at field edges. The Conservancy proposes to conduct a site assessment in 2007 to determine what corrective action is necessary. This is the fifth year post construction and mitigation monitoring is scheduled through 2011 with reports submitted to the Corps.

LJ-2 Cheswick Park

The purpose of this project is to conduct stream enhancement activities at Cheswick Park in Henrico County. The project was initiated and sponsored by the County of Henrico. The funding for this project was approved by the Corps on September 10, 2001. The property is protected as part of the Henrico County park system. Monitoring was not required for this project, and success standards were not associated with the site activities.

Cheswick Park is a 24 acre recreational county park located near Glenside Avenue in Henrico County. The County of Henrico was interested in conducting enhancement work on a headwater tributary of Upham Brook, a major tributary of the Chickahominy River that is listed as impaired for high fecal coliform counts by the Virginia Department of Environmental Quality (DEQ). The site was identified as a priority enhancement project by Henrico County's watershed management program. Enhancement activities were conducted along 400 linear feet of the tributary, for which 104 linear feet of enhancement work was attributed to the Fund. The additional activities conducted at the site, including additional enhancement work along a second channel, were funded by the County of Henrico and the Virginia Coastal Resources Management Program.

In the fall of 2001, a series of rock step pools were constructed to address the severe headcut moving upstream through the reach. The installation of the grade control structures returned the invert of the stream to the original elevation. The eroding banks were also stabilized through bank shaping and sloping. The Conservancy conducted a site visit with the Corps and DEQ on April 25, 2005, and the group observed that the headcut was stabilized. The group agreed that no additional activities would be conducted at the site. The Conservancy will request official closure of this project in 2007.

LJ-3 VMRC Elizabeth River Oyster Reef

The purpose of this project is to aid in restoration of native oyster populations in the Lower Chesapeake Bay by increasing suitable habitat for the species. The funding for this project was approved by the Corps on July 12, 2002. This project was sponsored by the Virginia Marine Resources Commission (VMRC).

VMRC proposed to construct an oyster reef in the Southern Branch of the Elizabeth River near Deep Creek in Chesapeake. The reef is posted and will be maintained as an oyster sanctuary by VMRC.

The reef was constructed in 2002 and is composed of oyster shells to intertidal heights of approximately five feet mean low water. The structure is approximately 300 feet long by 50 feet wide (0.34 acre). Success standards were not associated with the site activities. However, VMRC conducts annual monitoring of several artificial reefs including this project. According to VMRC, the reef experienced high spatsets initially in 2002 that were followed by a very wet year when many oysters on the reefs at Gilmerton and Deep Creek were killed, likely by freshwater. Since that year, the oysters have recovered with currently relatively large and healthy populations. Due to the unique nature of this project the Conservancy proposes crediting at a 10:1 ratio for tidal wetland enhancement for the project. The Conservancy will request official closure of this project in 2007.

CH-9/LJ-4 Northwest River (Stephens)

The Stephens property (detailed under the Chowan River Basin) is also included as part of Lower James River Basin due to the split drainage.

LJ-5 Isle of Wight Site

The purpose of this project is to conduct a real estate appraisal of this property for a potential non-tidal wetland (vernal ponds) preservation project. The funding for this appraisal was approved by the Corps on May 30, 2003. However, the project was not pursued due to landowner issues and the associated cost of the parcel. The Conservancy will request official closure of this project in 2007.

LJ-6 Chickahominy River (Rogers-Chenault)

The purpose of this project is to conduct non-tidal wetland and upland buffer preservation at the Chickahominy River (Rogers-Chenault) property in Henrico County. The funding for this project was approved by the Corps on December 14, 2004. The 94.3-acre property was placed under easement by the Conservancy on December 22, 2004. The Conservancy will hold and annually monitor the conservation easement, which will provide the long-term protection of the property. No additional monitoring is required for this project.

The Chickahominy River (Rogers-Chenault) property is located in Henrico County on the White Oak Swamp near the confluence of the Chickahominy River. The Chickahominy system is important for migratory fish, such as striped bass, shad, herring, and yellow perch. The proximity of Richmond to this area has led to increasing development pressures on the system. Development within the watershed has also increased sediment and nutrient loadings to the river.

The property is 94.3 acres and consists of a 14.7-acre lake from previous sand mining operations, with the remainder in a mixture of uplands and forested wetlands. The landowner conducted a delineation of surface waters for this site that was confirmed by Corps in 2002 as supporting information for a wetland mitigation feasibility report. Based on the jurisdictional determination, approximately 64.7 acres of wetlands and 29.6 acres of upland buffer are protected at the site. During the proposal process, wetland creation at the site was considered. However, once the site was more thoroughly investigated the Conservancy strongly recommended against pursuing wetland creation at the site due to high costs and the inherent risks of failure. In addition, other projects in the Lower James River Basin have been secured that more adequately address wetland impacts. The Conservancy will request official closure of this project in 2007.

LJ-7 Great Dismal Swamp Northwest Section Site

The purpose of this project is to conduct non-tidal wetland restoration, enhancement and upland buffer restoration and non-tidal wetland and upland buffer preservation at this property in Chesapeake. The initial funding request for a real estate appraisal was approved by the Corps on August 3, 2006. The second funding request for the project for acquisition and to develop the wetland mitigation plan was approved by the Corps on December 7, 2006. The Conservancy is in the process of taking ownership of the property, which will be maintained as a preserve while the wetland restoration activities and monitoring are ongoing. Following closure of the wetland restoration project, the Conservancy will likely pursue the sale or transfer of the site with an appropriate conservation easement in place. The proceeds of the sale will be returned to the Fund to facilitate future projects

The property is 84 acres and is located in the western branch area of Chesapeake. The property contains approximately 54 acres of cropland, 22 acres of forested wetlands and several acres of drained forested wetland and upland forest. In the past a ditch system was installed on this site to lower the ground water table to make farming more successful. The natural community type for restoration is Non-riverine wet hardwood forest and Mesic mixed hardwood forest and the primary functions to be restored include wildlife habitat and water quality enhancement. In the Conservancy's proposal to support planning and permitting for the site a credit summary based upon existing site knowledge was included. It should be noted that these proposed figures will likely change as a result of further planning efforts at the site, but should not deviate significantly.

A shallow groundwater table study will be conducted at the site during the 2007 growing season. The Conservancy anticipates that the mitigation plan will be completed in 2007. Following the completion of the plan, the Conservancy will submit a third request for funding to the Corps to complete the mitigation activities.

LJ-8 Lower Chickahominy River (Church Point Farm, LLC)

The purpose of this project is to conduct non-tidal wetland and upland buffer preservation at the Church Point Farm property in Charles City County. The initial funding to complete acquisition of the property was approved by the Corps on December 15, 2006. Church Point Farm, LLC, donated a conservation easement on the entire 944 acre property on December 27, 2006. The designated mitigation area includes the wetlands and associated buffer acreage as determined by a site assessment or delineation. The Conservancy will hold and annually monitor the donated easement. No additional monitoring is required for this project.

According to the National Wetlands Inventory (NWI) mapping, the property contains approximately 383 acres of wetlands, including freshwater tidal marshes which harbor occurrences of Parker's pipewort (*Eriocaulon parkeri*), and tropical water-hyssop (*Bacopa innominata*). The property also contains nesting and roosting habitat for the federally-threatened bald eagle (*Haliaeetus leucocephalus*). The reach of the Chickahominy along the property is listed as a Virginia Department of Environmental Quality (DEQ) 303d listed estuary for pH. The forested wetlands contain excellent examples of cypress tupelo swamp forest. According to the NWI mapping, the site contains approximately 383.0 acres of wetlands. A forested buffer extending fifty feet from the banks of the Chickahominy River and all wetlands, swamps and perennial streams on the property will be maintained as "no touch" and this is estimated at 47.3 acres. These two areas comprise the mitigation area (430.30 acres). Additional protected areas estimated at 514.0 acres will have development and extractive activities limited by the conservation easement, although they are not included in the mitigation acres as certain on-going timbering and agriculture activities will be permitted. This site is in close proximity to another Conservancy easement on Diascund Creek, is two miles upstream of Virginia Department of Game and Inland Fisheries (DGIF) 5,000+ acre Chickahominy Wildlife Management Area, and approximately four miles downstream of DGIF's Game

Farm Marsh Wildlife Management Area. This project adds significant protected acreage to this portion of the Lower James River. The Conservancy anticipates completing the surface water delineation or assessment in 2007.

LJ-9 James River Site

The purpose of this project is to conduct stream restoration activities at a property in James City County (JCC). The County identified this site and approached the Conservancy to complete the restoration activities through the Fund. The funding for this project was approved by the Corps on December 15, 2006. The Conservancy proposed to conduct Priority 1 relocation along approximately 967 linear feet of an unnamed tributary to Chisel Run. The site will be protected and managed through a Corps approved Memorandum of Agreement (MOA) between JCC and the Commonwealth of Virginia. The MOA is currently under development.

The site is located in close proximity to several local parks, as well as, a research area (William and Mary College Woods). The site is also situated at the outside edge of a state identified conservation area. The Powhatan Creek natural area has been identified through the Virginia Department of Conservation and Recreation (DCR) screening process as a B2 level, "very high significance", conservation area. The high biodiversity associated with this area prioritizes this site for protection. Three DCR Natural Heritage element occurrences are within a mile of the site, and an additional twelve occurrences are within two miles of the site.

The County had identified this 3.20 acre project as part of their Powhatan Creek Watershed Management Plan. One of the goals of the plan is to "restore the physical integrity of degraded headwater streams where possible". This stream segment is identified within the plan as a good candidate for stream restoration. The reach proposed for restoration is currently incised due to a headcut that is moving upstream through the project site. The stream is not able to access the floodplain during bankfull events, leading to additional incision and bank erosion. If the restoration project is not completed, the stream will likely continue to degrade. The mitigation activities include the Priority 1 relocation of approximately 967 linear feet of channel. The relocated channel will be buffered by a mature riparian forest ranging from approximately 50 to 260 feet along each bank.

The Corps 404 and DEQ 401 permits have already been issued for the site activities. Once the MOA has been finalized, the Conservancy will finalize the planning process to implement this project.

Middle James River Basin

The Middle James River Basin is comprised of four HUCs (02080203, 02080204, 02080205 and 02080207) encompassing the portion of the James River from the Blue Ridge Parkway east to Richmond. This basin is located within the Conservancy's Piedmont Ecoregion. Conservation targets include small, Piedmont streams and tributaries, James River Spinymussel, isolated wetlands, and working and old growth forests.

The projects discussed in this section serve as mitigation for permitted impacts within the Middle James River Basin for which the Fund was used as compensatory mitigation. Through 2006, the Conservancy has requested funds to pursue eight mitigation projects in this basin. The Corps has authorized funds for three of these projects. Two projects (MJ-1 and MJ-3) provide mitigation for both permitted impacts to non-tidal wetlands and streams. The third project (MJ-2) involved the authorization of funds to conduct a real estate appraisal of the property to pursue a potential stream mitigation project. Due to landowner constraints and the findings of the appraisal, this project was not pursued.

In 2006, the Conservancy proposed four additional projects to accomplish stream restoration/enhancement with associated buffer preservation within an urban stream system. These projects are pending Corps decision on the authorization of funds.

The Conservancy also requested funds in 2006 to pursue an eighth project in this basin. This project involved riparian buffer planting along approximately 1,000 linear feet of an unnamed tributary to Watts Branch in Albemarle County. The Corps, in consultation with FWS and DEQ, denied funding for this project based on the landowner request for low density planting and the ability to mow the mitigation area.

The following table provides a summary of projects for which fund were approved in the Middle James River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. A detailed summary of each project is included in the section below.

Table 39: Approved Project Summary for the Middle James River Basin.

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)
MJ-1	Rivanna River (Lamb)	M	4/10/01	366,450.00	0.00	0.00
		M	10/20/03	0.00	0.00	385,000.00
MJ-2*	Rivanna Watershed Site	A	9/2/05	0.00	0.00	1,500.00
MJ-3	Beaumont (Sisters of the Blessed Sacrament)	A	4/23/06	3,750.00	0.00	3,750.00
		M	12/15/06	110,500.00	0.00	110,500.00
		BS	12/19/06	12,500.00	0.00	12,500.00
			Totals	**493,200.00**	**0.00**	**513,250.00**
			Grand Total	**1,006,450.00**		

* Project is no longer pursued due to landowner constraints or the results of feasibility studies.

M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey

The following table summarizes the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Middle James River Basin. In addition the table provides the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

Table 40: Non-Tidal Wetland Project Summary for the Middle James River Basin.

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed	Additional
Project ID	Status	Rest/Cr	Pres	Enh	Rest	Pres	Acres	Credits	Protected Acreage
*MJ-1	M	20.00			26.00		46.00	21.73	44.32
*MJ-3	D		36.00			12.50	48.50	4.23	469.00
Sub-totals		**20.00**	**36.00**	**0.00**	**26.00**	**12.50**	**94.50**	**25.96**	**513.32**

Total Acres of Non-Tidal Impacts	**20.05**
Total Mitigation Liability	**36.99**
Total Proposed Credits	**25.96**
Percent of Wetland Acreage Replacement	**99.7**

LP - Pending finalization of land protection	I - Restoration/Enhancement/Creation activities in progress
P - Planning / permitting	M - Mitigation monitoring
D - Pending delineation / assessment	CA - Corrective actions necessary
	PC - Pending project closure

* Project includes stream or tidal wetland mitigation.

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the

As noted in Section II, the Fund has been used to mitigate for 21,919 linear feet of permitted stream impacts in the Middle James River Basin through 2006. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Middle James River Basin. This table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

Table 41: Stream Project Summary for the Middle James River Basin.

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
MJ-1*	M, CA	64.18	9,239	Priority 1 relocation of 1,866 lf of an unnamed tributary and bank shaping to provide floodplain area along 1,373 lf of a second unnamed tributary to the North Fork of the Rivanna River. Each bank of both tributaries planted with a 200 foot wide wooded buffer. Riparian buffer planting (250 feet wide) along a total of 6,000 lf of the North Fork (right bank) and South Fork (left bank) of the Rivanna River.	Reported under the wetlands summary
MJ-3*	D	482.50	37,820	Riparian buffer preservation of 8,280 lf along the right bank of the James River with an existing mature wooded buffer ranging from 100 to 300 feet. Stream system preservation of 12,200 lf of Deep Creek, with an existing mature wooded buffer 300 feet wide along each bank (except for a 50 foot wide buffer along the left bank for 2,500 lf). Stream system preservation of 9,420 lf of headwater tributaries to the James River with an existing mature wooded buffer of 200 feet along each bank. Stream system preservation of 7,920 lf of a headwater tributary to the James River with an existing mature wooded buffer of 300 feet along each bank.	Reported under the wetlands summary
	Totals	**546.68**	**47,059**		

ac - acre
lf - linear feet
LP - Pending finalization of land protection
P - Planning / permitting
D - Pending delineation / assessment
I - Restoration / Enhancement activities in progress
M - Mitigation monitoring
CA - Corrective actions necessary
PC - Pending project closure

* Project includes wetland mitigation.

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).

Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").

Project Summaries

The following section provides a detailed summary of each project located within the Middle James River Basin for which the Corps has authorized funds through 2006. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

MJ-1 Rivanna River (Lamb)

The purpose of this project is to conduct non-tidal wetland and upland buffer restoration, stream restoration and enhancement, and riparian buffer planting activities at the Lamb property (also known as the Forks of the Rivanna project) in Albemarle County. The funding for the site acquisition and wetland activities was approved by the Corps on April 10, 2001, and the funding for the stream activities was approved by the Corps on October 20, 2003. The Conservancy proposed to restore approximately 20 acres of ditched and tile-drained non-tidal wetlands with an upland buffer and restore/enhance approximately 3,000 linear feet of severely incised stream channel. The Conservancy also proposed

planting a wooded buffer along one bank of both the North and South Forks of the Rivanna River. The site was purchased by the Conservancy on October 24, 2001. The Conservancy sold the property to a conservation buyer, with a conservation easement in place, on November 17, 2006. The proceeds from the land sale were returned to the Fund to facilitate future mitigation projects.

This 154.5-acre site is located at the confluence of the North and the South Forks of the Rivanna River. Prior to the Conservancy's involvement, the majority of the tract had been converted to row crop agriculture through deforestation, installation of a tile drain system, and channelization of two streams on the property. Through the Conservancy's ecoregional planning, the Lamb site was identified as important to the protection of the main stem of the Rivanna River, including both overall water quality and the protection of the James River Spinymussel. The mitigation area for this project is 110.18 acres which includes the "no-touch" stream and wetland areas and associated buffers. The remaining 44.32 acres are subject to activities (such as agriculture and a single building envelope) that exclude its appropriateness as compensatory mitigation, but can be viewed as additional protected acreage.

Wetland Summary

A depressional area located in the center of the fields was historically ditched and tile drained to convert it to agriculture. Based on landscape setting, hydrology, and analyses of vegetation in surrounding areas, the appropriate ecological community group to target for restoration of the agricultural fields on the site consists of Piedmont/Mountain Bottomland Forests. The objective of the wetland project was to restore a mixture of emergent and forested wetlands (20 acres) and an upland buffer (26 acres).

The tile drain system had a primary outlet that was blocked in 2002 to determine the effects on hydrology. Because the project relied upon ditch plugging and elimination of the drainage tile system rather than large-scale grading, the site was planted in 2003 prior to construction. The tile drains were crushed and the ditches were plugged in 2005 concurrent with the stream restoration project. Three automatic-reading shallow groundwater level monitoring wells and five manual reading shallow groundwater wells were installed in the agricultural fields in March 2002. In addition, five manual reading shallow groundwater wells and three piezometers were installed in 2003 and 2004 and monitored weekly for the beginning of the growing season. Results from the hydrology wells indicate that the majority of the area monitored meets the Corps hydrology requirements; however, water depth and duration were greater than predicted in the growing season following planting and this resulted in high seedling mortality in the area. As a result a freshwater marsh wetland has developed within much of the restoration area with inadequate woody seedling colonization. This portion of the site has been utilized by a wide variety of waterfowl, snakes and mammals as have been observed during site visits, thus, the site is performing important wildlife habitat functions. The invasive species Johnson grass gained dominance in portions of the upland buffer for the wetland restoration area as well as in other much larger portions of the site and chemical control efforts began in 2006. In order to meet the goals of the project pertaining to establishment of forested wetlands corrective action is necessary. Once the Johnson Grass has been managed, the Conservancy will propose to re-plant sections of the wetland and the buffer.

Stream Summary

In the summer of 2005, the Conservancy conducted stream restoration and enhancement activities at the site including the Priority 1 relocation of an unnamed tributary to the North Fork of the Rivanna River. The relocation of the tributary involved the excavation of 1,866 linear feet of a new stable channel in the floodplain to the west of the existing degraded channel. The new channel was stabilized with instream rock and log structures and rootwads along the banks. A series of step-pool structures were installed at the downstream section of the channel to meet the elevation of a second tributary at the site. The banks of this highly incised second tributary were graded and shaped along 1,373 linear feet of channel to create a new floodplain within the channel. Instream structures were also installed within this reach to provide channel stability. The restoration activities were completed in September 2005. The channel banks and

benches along both tributaries were planted with live stakes in March 2006.

Stream monitoring events are scheduled for monitoring years 1, 2, 3, 5, 7, and 10 with reports submitted to the Corps. The first year geomorphologic monitoring event was completed in November 2006. The results of the monitoring indicted that the system is stable and has not departed significantly from the as-built conditions. The Conservancy plans to conduct minor bank repairs and minor repairs to one cross vane to redirect the flow over the invert in the spring of 2007.

In the spring of 2003, the Conservancy planted a 250 foot wide wooded buffer along the right bank of the North Fork of the Rivanna River and along the left bank of the South Fork of the Rivanna River. The total linear footage of riparian buffer planting along the rivers was 6,000 linear feet. The survival of these plantings was greatly impacted by the presence of Johnson Grass *(Sorghum halepense),* which is currently dominating much of the upland portions of the site. The Conservancy initiated an eradication program for the Johnson Grass in the spring of 2006 and will continue this program through 2007 or until the species is managed. Once the Johnson Grass has been managed, the Conservancy will plant 200 foot wide buffers along each bank of the 3,239 linear feet of restored or enhanced channels and replant the buffer areas along the North and South Forks of the Rivanna River. In addition, several hundred linear feet of the tributary upstream of the Priority 1 relocation will be preserved, pending the finalization of the project. This section of the tributary is located within a mature hardwood forest.

MJ-2 Rivanna Watershed Site

The purpose of this project is to conduct a real estate appraisal of this property for potential riparian buffer preservation. The funding for this appraisal was approved by the Corps on September 2, 2005. However, the project was not pursued due to landowner issues and the associated cost of the parcel. The Conservancy will request official closure of this project in 2007.

MJ-3 Beaumont (Sisters of the Blessed Sacrament)

The purpose of this project is to conduct open water/wetland and associated upland buffer preservation and stream and the associated upland riparian buffer preservation at the Beaumont property (also known as Belmead) located along the James River in Powhatan County. The initial funding to complete a real estate appraisal of this property was approved by the Corps on April 23, 2006. Two additional funding requests to acquire the site and complete a boundary survey were approved by the Corps on December 15 and December 19, 2006, respectively. The Conservancy purchased a conservation easement on December 28, 2006, on approximately 1,000 acres at the site; however, the mitigation area is 531 acres, as certain activities such as agriculture and silviculture will be allowed outside the designated "no-touch" buffers surrounding the open water, streams, and wetlands. The easement will be co-held by the Virginia Outdoors Foundation and the James River Association, who will be responsible for enforcing its terms. No additional monitoring is required for this project.

The tract is located within two miles of the 4,500-acre Powhatan Wildlife Management Area, and will add to the protected forested and riparian habitat in the area. In addition, the Conservancy identified this site as an important conservation target due to the location within the Beaumont forest matrix block which covers approximately 50,847 acres and constitutes one of fifteen high-quality, relatively unfragmented forests remaining in the Piedmont of Virginia. The Virginia Department of Conservation and Recreation (DCR) Natural Heritage Program files also document an American Bald Eagle nest site on the property and several rare mussel species have been documented in the James River adjacent to and upstream from the property.

This project will preserve an estimated 37,820 linear feet of stream channel (including sections of the James River, Deep Creek, and several headwater tributaries) with a protected mature forested upland riparian buffer ranging from 100 to 300 feet along the majority of the banks. Of this linear footage, both banks of approximately 29,540 linear feet of channel are located on the property and will be fully protected. The project will also preserve an estimated 48.5 acres of open water/wetlands and additional forested upland buffers. The Conservancy anticipates completing the surface water delineation or assessment in 2007.

Upper James River Basin

The Upper James River Basin is comprised of two HUCs (02080201 and 02080202) encompassing the portion of the James River from the West Virginia border east to the Blue Ridge Parkway. This basin is located within the Conservancy's Central Appalachian Ecoregion. Conservation targets include Central Appalachian river systems (with particular interest to the Cowpasture River and the associated tributaries), montane, non-alluvial wetlands, cave invertebrate communities, bats, alluvial forests and grasslands, pine-oak-heath woodlands, and Central Appalachian mixed hardwood forests.

The projects discussed in this section serve as mitigation for permitted impacts within the Upper James River Basin for which the Fund was used as compensatory mitigation. Through 2006, the Conservancy has requested funds to pursue two mitigation projects in this basin. The Corps has authorized funds for both projects. One project (UJ-1) provides funds to complete a feasibility study to assess the mitigation potential to address permitted impacts to non-tidal wetlands, and the second project (UJ-2) provides mitigation for permitted impacts to streams.

The following table provides a summary of projects for which fund were approved in the Upper James River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. A detailed summary of each project is included in the section below.

Table 42: Approved Project Summary for the Upper James River Basin.

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)
UJ-1	Warm Springs Mountain / Cowpasture River (Phillips)	AC, F	9/1/06	22,679.00	0.00	0.00
UJ-2	Warm Springs Mountain / Cowpasture River Site	M	12/7/06	0.00	0.00	149,009.00
			Totals	**22,679.00**	**0.00**	**149,009.00**
			Grand Total	**171,688.00**		

M - Mitigation (may include A, Ac, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey

As noted above, one project was funded to conduct a feasibility study to determine the mitigation potential for non-tidal wetlands. No other wetland mitigation projects have been funded to date.

As noted in Section II, the Fund has not been used to mitigate for permitted stream impacts in the Upper James River Basin. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for the stream project pursued by the Conservancy to serve as mitigation for future impacts in the Upper James River Basin.

Table 43: Stream Project Summary for the Upper James River Basin.

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
UJ-2	LP	12.00	4,115	Riparian buffer preservation of 3,000 lf along the right bank of Claylick Run with an existing mature wooded buffer 100 feet wide. Stream system preservation of 1,115 lf of Claylick Draft with an existing mature wooded buffer 100 feet wide along each bank.	123.00
	Totals	**12.00**	**4,115**		**123.00**

ac - acre
lf - linear feet
LP - Pending finalization of land protection
P - Planning / permitting
D - Pending delineation / assessment
I - Restoration / Enhancement activities in progress
M - Mitigation monitoring
CA - Corrective actions necessary
PC - Pending project closure

* Project includes wetland mitigation.

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).

Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").

Project Summaries

The following section provides a detailed summary of each project located within the Upper James River Basin for which the Corps authorized funds through 2006. The summaries include a description of the mitigation activities; partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

UJ-1 Warm Springs Mountain/Cowpasture River (Phillips)

The purpose of this project is to conduct a feasibility study to address the potential for non-tidal wetland restoration and creation and upland buffer restoration at the Phillips property in Bath County. The initial funding request to complete a feasibility study for the site was approved by the Corps on September 1, 2006. The Conservancy proposed to complete a feasibility study to perform data collection and site design needed to implement an effective wetlands enhancement/establishment, reforestation, and forest preservation project on approximately 15.7 acres. The project area will be protected by a conservation easement held and enforced by the Conservancy. Long-term protection will be achieved in accordance with the conservation easement.

This project is located within the Cowpasture River watershed; considered by many experts to be the healthiest watershed in Virginia. The river comprises an exemplary aquatic system including warm water fishes, mussels, crayfish, aquatic insects, and native brook trout in cold water tributaries. According to the Virginia Department of Conservation and Recreation (DCR) records, there are documented occurrences of Roughhead shiner (*Notropis semperasper*) and yellow lance *(Elliptio lanceoleta)* fish, as well as Green floater (*Lasmigona subviridis*) mussels at the down stream end of the property. Fifty-five percent of the land in this priority conservation area is in public ownership.

The Conservancy anticipates submitting a second proposal in 2007 to request the funding to complete the mitigation option suggested by the feasibility study.

UJ-2 Warm Springs Mountain/Cowpasture River Site

The purpose of this project is to conduct stream and the associated upland riparian buffer preservation at this property in Bath County. The funding to complete this project was approved by the Corps on December 7, 2006. The Conservancy plans to purchase and hold a conservation easement on the 135 acre parcel, which will, in part, protect two forested streams that flow from the George Washington National Forest, across the property, and into the Cowpasture River. However, the mitigation area is approximately 12 acres, as certain activities such as selective forest management practices in accordance with a Conservancy approved plan will be allowed outside the designated 100 foot "no-touch" buffers surrounding the streams. Long-term protection will be achieved through the monitoring and enforcement of the conservation easement by the Conservancy. No additional monitoring is required for this project.

This project is located within the Cowpasture River watershed; considered by many experts to be the healthiest watershed in Virginia. The river comprises an exemplary aquatic system including warm water fishes, mussels, crayfish, aquatic insects, and native brook trout in cold water tributaries. According to the Virginia Department of Conservation and Recreation (DCR) records, there are documented occurrences of Roughhead shiner (*Notropis semperasper*) and yellow lance *(Elliptio lanceoleta)* fish, as well as Green floater (*Lasmigona subviridis*) mussels at the down stream end of the property. Fifty-five percent of the land in this priority conservation area is in public ownership. Additionally, directly upstream of the project site more than 12,000 linear feet of the Cowpasture River have been protected (via a conservation easement) by the adjacent landowner.

The project will preserve approximately 3,000 linear feet of Claylick Run (right bank only) and 1,115 linear feet of Claylick Draft (both banks), with the associated 100 foot wide mature wooded upland buffer along the respective banks. Both tributaries are stable, headwater systems that join several hundred feet prior to the confluence of the Cowpasture River. The majority of these tributaries' watersheds are located on the parcel or on the George Washing National Forest. There is minimal development potential upstream due to slope and public ownership. The mitigation area for this project is 12 acres which includes the "no-touch" buffers. The remaining 123 acres are subject to activities that exclude its appropriateness as compensatory mitigation, but can be viewed as additional protected acreage.

The project is currently on-hold pending landowner concerns subsequent to the Corps approval of the project. Assuming the landowner issues are resolved, the Conservancy anticipates closing on the easement in 2007.

New River Basin

The New River Basin is comprised of two HUCs (05050001 and 05050002). This basin is located within the Conservancy's Central Appalachian Ecoregion. Conservation targets include small, Central Appalachian streams and tributaries and general locations encompassing habitat for known Virginia Department of Conservation and Recreation Natural Heritage elements.

The Fund has been used to mitigate for 0.60 acres of non-tidal wetland impacts and 3,078 linear feet of stream impacts in the New River Basin. Through 2006, the Conservancy has not requested funds to pursue any mitigation project in this basin.

Potomac River Basin

The Potomac River Basin is comprised of three HUCs (02070008, 02070010, and 02070011) encompassing the Lower Potomac east of the Blue Ridge to the Bay. This basin is located within the Conservancy's Piedmont Ecoregion. Conservation targets include small Piedmont streams and tributaries, sportfish and nongame fish populations, and estuarine and riverine systems.

The projects discussed in this section serve as mitigation for permitted impacts within the Potomac River Basin for which the Fund was used as compensatory mitigation. Through 2006, the Conservancy has requested funds to pursue four mitigation projects in this basin. The Corps has authorized funds for all four projects. One project (PO-1) provides mitigation for permitted impacts to both non-tidal wetlands and streams, and two of the projects (PO-2 and PO-3) provide mitigation for permitted impacts to streams. The fourth project (PO-4) involves the authorization of funds to conduct a real estate appraisal of a property to pursue a potential stream and wetland mitigation project.

The following table provides a summary of projects for which funds were approved in the Potomac River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. A detailed summary of each project is included in the section below.

Table 44: Approved Project Summary for the Potomac River Basin.

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)
PO-1	Caledon (Nash)	M	5/23/01	175,000.00	0.00	0.00
		M	12/19/03	0.00	0.00	60,800.00
PO-2	Dogue Creek Site	M	10/6/06	0.00	0.00	1,222,000.00
PO-3	Goose Creek Site	M	12/7/06	0.00	0.00	1,406,703.00
PO-4	Goose Creek Site	A	10/11/06	3,250.00	0.00	3,250.00
			Totals	**178,250.00**	**0.00**	**2,692,753.00**
			Grand Total	**2,871,003.00**		

M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey

The following table summarizes the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Potomac River Basin. In addition, the table provides the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

Table 45: Non-Tidal Wetland Project Summary for the Potomac River Basin.

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed
Project ID	**Status**	**Rest/Cr**	**Pres**	**Enh**	**Rest**	**Pres**	**Acres**	**Credits**
***PO-1**	M,D,CA	10.00	50.00		26.38	66.38	152.76	20.08
Sub-totals		**10.00**	**0**	**0**	**26.38**	**66.38**	**152.76**	**20.08**

Total Acres of Non-Tidal Impacts	**7.01**
Total Mitigation Liability	**10.83**
Total Proposed Credits	**20.08**
Percent of Wetland Acreage Replacement	**142.7**

LP - Pending finalization of land protection	I - Restoration/Enhancement/Creation activities in progress
P - Planning / permitting	M - Mitigation monitoring
D - Pending delineation / assessment	CA - Corrective actions necessary
	PC - Pending project closure

* Project includes stream or tidal wetland mitigation.

As noted in Section II, the Fund has been used to mitigate for 67,484 linear feet of permitted stream impacts in the Potomac River Basin through 2006. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Potomac River Basin. The table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

Table 46: Stream Project Summary for the Potomac River Basin.

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
PO-1*	M	7.24	1,600	Priority 1 relocation of 300 lf and Priority 2 restoration of 650 lf of an unnamed tributary to Chotank Creek with an existing mature wooded buffer ranging from 50 to over 200 feet along each bank. Livestock exclusion fencing installed to protect 1,600 lf of stream channel and a small pond.	0.00
PO-2	LP, D, P	5.30	2,500	Priority 1 relocation of 2,300 lf and Priority 2 restoration of 200 lf along two unnamed tributaries to Dogue Creek. The channels buffered by an existing mature forest (with several small areas of buffer enhancement) ranging from 50 to 150 feet along each bank.	0.00
PO-3	LP, D, P	28.00	6,877	Channel restoration and enhancement activities along 6,877 lf of several unnamed tributaries to Crooked Run. In addition to channel work, riparian buffer planting 100 feet wide along 5,182 lf of both banks, except for an 80 foot wide buffer along the right bank for 1,118 lf and a 20 foot wide buffer along the left bank for 146 lf. Riparian buffer planting 80 feet wide along a single bank for 1,695 lf (other bank is off property). Livestock exclusion fencing installed to protect 6,877 lf of channel.	0.00
	Totals	**40.54**	**10,977**		**0.00**

ac - acre
lf - linear feet
LP - Pending finalization of land protection
P - Planning / permitting
D - Pending delineation / assessment
I - Restoration / Enhancement activities in progress
M - Mitigation monitoring
CA - Corrective actions necessary
PC - Pending project closure

* Project includes wetland mitigation.

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).

Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").

Project Summaries

The following section provides a detailed summary of each project located within the Potomac River Basin for which the Corps has authorized funds through 2006. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

PO-1 Caledon (Nash)

The purpose of this project is to conduct non-tidal wetland restoration and preservation, upland buffer restoration and preservation, stream restoration, and livestock exclusion activities at the Nash property in King George County. The funding to complete the acquisition and wetland component of this project was approved by the Corps on May 23, 2001. The funding to complete the stream component of this project was approved by the Corps on December 19, 2003. The Conservancy proposed to reverse the existing ditching effects and restore the forest cover in the pastureland at the property and to restore the proper dimension, pattern, and profile to the degraded segment of an unnamed tributary to Chotank Creek.

The Nash property is located immediately east of Caledon State Park. The property was placed under easement on June 14, 2001, by the Conservancy, and the easement is currently held and monitored by the Virginia Outdoors Foundation (VOF). The easement contributed to the protection of over 1,400 acres, which were dedicated as the Chotank Creek Natural Area Preserve. The Trust for Public Land negotiated the deal and other major partners included the Virginia Department of Conservation and Recreation (DCR), the VOF, the Chesapeake Bay Foundation (CBF), and the United States Fish and Wildlife Service (FWS). The protection of Chotank Creek Natural Area Preserve creates a corridor of more than 4,000 acres of protected land on the Virginia side of the Potomac River. This area is one of the most significant summering spots for the American Bald Eagle (*Haliaeetus leucocephalus*). Long-term protection of the property is accomplished through the monitoring and enforcement of the easement by VOF.

The property is approximately 160 acres with 100 acres of mixed hardwood/pine forest and 60 acres of pastureland including converted and degraded wetlands. This entire 160 acres is considered as mitigation area. A section of an unnamed tributary to Chotank Creek had been channelized and relocated to serve as the water source for livestock. The livestock were preventing the colonization of woody vegetation in the pasture and causing serious stream bank and channel degradation, in addition to decreasing water quality through the direct addition of fecal material.

Wetland Summary

Based on landscape setting, hydrology, and analyses of vegetation in surrounding areas, the appropriate ecological community groups to target for restoration of the pastureland consists of non-riverine wet hardwood forests and mesic mixed hardwood forest. The goal of the proposed mitigation activities is to restore the livestock pasture area to a mixture of forested wetlands (10 acres) and upland buffer (26 acres) and to preserve approximately 50 acres of forested wetland 66 acres of upland. The original proposed wetland restoration area of 40 acres was revised to 10 acres in the 2005 Annual Report based upon hydrologic information collected on the site.

In 2003, the Conservancy plugged several ditches and other drainage features in the pasture and the wetland and stream mitigation areas were fenced from the livestock. In 2004, the pasture was planted with 15,000 bare root seedlings composed of nine different native wetland hardwood tree species. The Conservancy installed five automatic-reading shallow groundwater level monitoring wells in representative locations in the wetland restoration area in 2004 that have been used to monitor hydrology annually. Results from hydrological monitoring indicate that portions of the site are not experiencing saturation and inundation sufficient to meet hydrology standards; however, a roughly 9-acre area exhibits strong wetland characteristics including dominance by FACW and/or OBL wetland plant species that indicate wetland hydrology is present. Planted tree survival and natural colonization is below 400 stems per acre based upon monitoring results and site observations. In addition weedy species such as blackberry (Rubus spp.), multiflora rose (*Rosa multiflora*) and soft needle rush (*Juncus effusus*) have contributed to both low planted tree survival and low natural colonization in many areas. In order to meet the goals of the project pertaining to establishment of forested wetlands corrective action is necessary. Specifically, a large section of the site (~12 ac) should be subjected to a soil de-compaction method, the invasive species controlled using herbicide, and the area re-planted with seedlings. This is the third year post construction and mitigation monitoring is scheduled through 2013 with reports submitted to the Corps.

Stream Summary

In 2004, the Conservancy conducted stream restoration activities at the site including the Priority 1 relocation of 300 linear feet of the unnamed tributary to Chotank Creek. The stream was relocated into the historic channel located within a mature forest. The historic channel was in stable condition and did not require additional work. The Conservancy also conducted Priority 2 restoration along 650 linear feet

of channel upstream of and adjacent to the Priority 1 relocation. As part of this work, several instream structures were installed for grade control and bank protection. Along this section, the restored channel is buffered by an existing mature forest (with several small areas of buffer enhancement) ranging from 50 to 200 feet wide along the right bank. The left bank did not require additional planting, as it was currently forested with a mature hardwood forest. The Fund also installed over 6,000 linear feet of livestock exclusion fencing to permanently remove livestock from a total of 1,600 linear feet of stream channel (including the 950 linear feet of restored channel) and a small pond located on the property. As part of the livestock exclusion activity, an alternative water source was also installed at the site.

The Conservancy conducts annual site visits beginning in November 2006 and continuing through 2010 to inspect the stability of the channel. The monitoring includes surveying two permanent cross sections located along the Priority 2 segment of the channel and visually inspecting the channel bed, banks, and instream structures. The yearly survey results are compared to both the as-built survey and the previous surveys to determine if the channel is departing from stable conditions.

The first year monitoring event was completed in November 2006. The results of the monitoring indicted that the system is stable and has not departed significantly from the as-built conditions. The second monitoring event is scheduled for November 2007.

PO-2 Dogue Creek Site

The purpose of this project is to conduct stream restoration activities at a property in Fairfax County. The Northern Virginia Soil and Water Conservation District (NOVA SWCD) and Vanasse Hangen Brustlin, Inc. (VHB) identified this site and approached the Conservancy to discuss completing this restoration project through the Fund. The funding for this project was approved by the Corps on October 6, 2006. The Conservancy proposed to conduct approximately 2,500 linear feet of restoration activities along two tributaries to Dogue Creek. The landowner will donate a conservation easement on the 5.30 acre site, which consists of a "no-touch" stream and riparian buffer corridor. The easement will be held by the NOVA SWCD and the Northern Virginia Conservation Trust (NVCT). Long-term protection of the property is accomplished through the monitoring and enforcement of the easement by NOVA SWCD and NVCT. The schedule for the stream monitoring and reporting events will be finalized through the permitting process.

The upstream termini of this project ties into a formerly restored project site (referred to as Phase 1) which involved the Priority 1 relocation of approximately 1,200 lf of the main tributary to Dogue Creek. This project was completed in 1999 and, as determined through geomorphic monitoring, the system has maintained the designed stable conditions. Within 500 feet downstream of the subject property boundary, the tributary enters Huntley Meadow Park. This 1,400 acre park contains numerous protected stream and wetland complexes which are very unique for such a highly urbanized area. The proposed restoration project will ultimately enhance the existing wetlands and streams at the park by reducing sedimentation to these systems and increasing wildlife corridors. In addition, many Virginia Department of Conservation and Recreation (DCR) Natural Heritage element occurrences are within the vicinity of the site.

The County and NOVA SWCD identified this reach as a primary area for restoration activities. The main tributary is severely incised with massive bank wasting and erosion. The incision is most likely the result of the urban nature of the area and past channel alterations. The stream is not able to access the floodplain during bankfull events, leading to additional incision and bank erosion. If the restoration project is not completed, the stream will likely continue to degrade. The mitigation activities include the Priority 1 relocation of approximately 2,300 linear feet and the Priority 2 restoration of approximately 200 linear feet of channel. The restored channels will be buffered by an existing mature riparian forest (with several small areas of enhancement) ranging from approximately 50 to 150 feet along each bank.

The Conservancy anticipates the easement will be finalized in 2007. Once the easement is signed, the Conservancy will finalize the planning process to implement this project.

PO-3 Goose Creek Site

The purpose of this project is to conduct stream restoration, enhancement, and livestock exclusion activities at a property in Loudoun County. The property was identified as a potential site through the Conservancy's outreach to local interest groups in Loudoun County. The Goose Creek Association and the Loudoun County Natural Resources Conservation Service (NRCS) contacted the Conservancy to discuss completing this restoration and enhancement project through the Fund. The funding for this project was approved by the Corps on December 7, 2006. The Conservancy proposed to install livestock exclusion fencing and conduct restoration and enhancement activities along approximately 6,877 linear feet of several unnamed tributaries to Crooked Run. The landowners will donate a conservation easement over an approximate 80 to 100 foot wide "no-touch" riparian area along each bank of the tributaries on the subject property (total of 28 acres). This easement will be held by the Conservancy. Long-term protection of the property is accomplished through the monitoring and enforcement of the easement by the Conservancy. The schedule for the stream monitoring and reporting events will be finalized through the permitting process.

The Conservancy identified the Goose Creek watershed as a stream Portfolio Conservation Area and a critical area for restoration. The property is adjacent to several Virginia Outdoors Foundation (VOF) and Loudoun County Open Space easements, providing additional habitat and corridors for wildlife. Several Department of Conservation and Recreation Natural Heritage element occurrences are within approximately three miles of the sites, including Sandbar Willow (*Salix exigua*) and the Dotted Skipper (*Hesperia attalus slossonae).* Crooked Run drains into the North Fork of the Goose Creek which is a Virginia Department of Environmental Quality 303d listed stream for fecal coliform. As part of the Potomac River drainage and the Chesapeake Bay watershed, this project contributes to water quality improvement goals set for the Bay. In addition, the landowner is interested in showcasing the stream restoration and enhancement activities to other landowners and set a precedent for cattle farmers in the area. The landowners and the local NRCS representative will actively campaign to have this project serve as a catalyst for additional stream projects in this watershed.

Prior to the Conservancy involvement, nearly the entire property was used to graze cattle, which used the stream as their sole water source. All of the channels have some degree of incision, with eroding banks, aggradation, and degradation. The stream is not able to access the floodplain during bankfull events, leading to additional incision and bank erosion. If the restoration project is not completed and the cattle have continued access to the streams, the systems will likely continue to degrade. The mitigation activities include the restoration or enhancement of approximately 6,877 linear feet of channel. The Conservancy will also plant a riparian buffer ranging from approximately 80 to 100 feet along each bank for the majority of the length of all reaches. Of the total linear footage, both banks of approximately 5,182 linear feet of channel are located on the property and will be fully protected. In addition to the channel and buffer activities, the Conservancy will install livestock exclusion fencing to remove cattle from all 6,877 linear feet of channel.

The Conservancy anticipates the easement will be finalized in 2007. Once the easement is signed, the Conservancy will finalize the planning process to implement this project.

PO-4 Goose Creek Site

The purpose of this project is to conduct a real estate appraisal of this approximate 200 acre property for a potential stream and wetland restoration/enhancement project. The site is located in Loudoun County within the Goose Creek watershed. The funding for this appraisal was approved by the Corps on October 11, 2006. The Conservancy is in negotiations with the landowner concerning the potential to purchase a conservation easement on the property.

Rappahannock River Basin

The Rappahannock River Basin is comprised of two HUCs (02080103 and 02080104) encompassing the headwaters of the Rappahannock and Rapidan Rivers east to the Chesapeake Bay. This basin is located within both the Conservancy's Piedmont and Chesapeake Bay Lowlands Ecoregions. Conservation targets include small, Blue Ridge foothill streams and inner Piedmont streams, tributaries, and rivers, anadromous fishes, freshwater mussels, seepage wetlands, tidal freshwater system, migratory land birds and raptors, Coastal Plain mixed pine-hardwood forest matrix, Piedmont forest matrix, and calcareous forest.

The projects discussed in this section serve as mitigation for permitted impacts within the Rappahannock River Basin for which the Fund was used as compensatory mitigation. Through 2006, the Conservancy has requested funds to pursue six mitigation projects in this basin. The Corps has authorized funds for all six projects. One project (RP-5) provides mitigation for impacts to non-tidal wetlands, one project (RP-1) provides mitigation for permitted impacts to tidal wetlands, and three projects (RP-2, RP-3, RP-4) provide mitigation for permitted impacts to streams. The sixth project (RP-6) involved the authorization of funds to conduct a real estate appraisal of the property to pursue a potential non-tidal wetland mitigation project. Due to landowner constraints and the findings of the appraisal, this project was not pursued.

The following table provides a summary of projects for which funds were approved in the Rappahannock River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. A detailed summary of each project is included in the section below.

Table 47: Approved Project Summary for the Rappahannock River Basin.

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)
RP-1	Rappahannock Phragmites Control	M	4/11/01	0.00	10,000.00	0.00
RP-2	Linden Farm	M	7/30/02	0.00	0.00	61,894.00
RP-3	Rappahannock River Fish Passage	M	12/5/02	0.00	0.00	39,700.00
RP-4	Upper Rappahannock (City of Fredericksburg)	M	6/30/03	0.00	0.00	1,100,000.00
		M	5/23/05	0.00	0.00	206,275.00
		M	7/27/06	0.00	0.00	654,665.00
RP-5	Rappahannock River (Wellford)	M	4/21/05	14,000.00	0.00	0.00
RP-6*	Rapidan River Site	A	9/9/05	6,500.00	0.00	0.00
			Totals	**20,500.00**	**10,000.00**	**2,062,534.00**
			Grand Total	**2,093,034.00**		

* Project is no longer pursued due to landowner constraints or the results of feasibility studies.

M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey

The following tables summarize the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal and tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Rappahannock River Basin. In addition, the tables provide the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The tables do not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

Table 48: Non-Tidal Wetland Project Summary for the Rappahannock River Basin.

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed
Project ID	Status	Rest/Cr	Pres	Enh	Rest	Pres	Acres	Credits
RP-5	D		16.40			1.60	18.00	1.72
Sub-totals		**0.00**	**0.00**	**0.00**	**0.00**	**1.60**	**18.00**	**1.72**

Total Acres of Non-Tidal Impacts	**9.90**
Total Mitigation Liability	**18.98**
Total Proposed Credits	**1.72**
Percent of Wetland Acreage Replacement	**0.0**

LP - Pending finalization of land protection	I - Restoration/Enhancement/Creation activities in progress
P - Planning / permitting	M - Mitigation monitoring
D - Pending delineation / assessment	CA - Corrective actions necessary
	PC - Pending project closure

Table 49: Tidal Wetland Project Summary for the Rappahannock River Basin.

Project Information		Salt Marsh	SAV	Oyster	Tidal	Tidal	Mitigation	Proposed
Project #	Status	Rest	Rest	Rest	Enh	Pres	Acres	Credits
RP-1	PC				80.00		80.00	1.60
Acre Sub-totals		**0.00**	**0.00**	**0.00**	**80.00**	**0.00**	**80.00**	**1.60**
Credit Sub-totals		**0.00**	**0.00**	**0.00**	**1.60**	**0.00**		

Total Acres of Tidal Impacts	**0.00**
Total Mitigation Liability	**0.00**
Total Proposed Credits	**1.60**
Percent of Wetland Acreage Replacement	**0.0**

LP - Pending finalization of land protection	I - Restoration/Enhancement/Creation activities in progress
P - Planning / permitting	M - Mitigation monitoring
D - Pending delineation / assessment	CA - Corrective actions necessary
	PC - Pending project closure

As noted in Section II, the Fund has been used to mitigate for 9,954 linear feet of permitted stream impacts in the Rappahannock River Basin through 2006. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Rappahannock River Basin.

Table 50: Stream Project Summary for the Rappahannock River Basin.

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
RP-2	PC	28.00	7,742	Riparian buffer planting (approximately 100 to 300 feet wide) along both banks of 2,000 lf of stream channel. Livestock exclusion fencing installed to protect 7,742 lf of unnamed tributaries to Mountain Run and a pond.	0.00
RP-3	PC	NA	NA	Installed an Alaskan steep-pass structure in White Oak Run to allow the migration of anadromous fishes.	NA
RP-4	LP, D	1,253.38	304,297	Riparian buffer preservation of 68,634 linear feet along both banks and 38,950 lf along one bank of the Rappahannock River. Riparian buffer preservation of 37,115 lf along both banks and 23,668 lf along one bank of the Rapidan River. Riparian buffer preservation along 135,930 lf of both banks of unnamed tributaries to the two rivers. Protected buffers are 100 foot wide predominantly mature woodlands.	2,978.62
	Totals	**1,281.38**	**312,039**		**2,978.62**

ac - acre
lf - linear feet
LP - Pending finalization of land protection
P - Planning / permitting
D - Pending delineation / assessment
I - Restoration / Enhancement activities in progress
M - Mitigation monitoring
CA - Corrective actions necessary
PC - Pending project closure

* Project includes wetland mitigation.

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).

Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").

Project Summaries

The following section provides a detailed summary of each project located within the Rappahannock River Basin for which the Corps authorized funds through 2006. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

RP-1 Rappahannock River Phragmites Eradication

The purpose of this project is to conduct tidal enhancement activities along 80 acres of the shores of the Rappahannock River. This project was sponsored by the Friends of the Rappahannock. The funding for this project was approved by the Corps on April 11, 2001. Long-term protection and monitoring were not required for this project and success standards were not associated with the site activities.

In response to *Phragmites australis* (Phragmites) invasion along the Rappahannock River concerned landowners and public agencies formed the Rappahannock Phragmites Action Committee in January of 2000 and it was through this coordinated effort that funding was requested. The primary point of contact for this project was the United States Fish and Wildlife Service, who was instrumental in securing permissions, requesting funding, and mapping locations of the federally endangered sensitive joint vetch (*Aechynomene virginica*) species known to occur in the watershed to prevent any risk to these populations by the spraying activities. The treatment included the aerial spraying of glyphosate, a broad spectrum non-specific herbicide, on approximately 80 acres. The treatment was conducted in 2001. Because Phragmites control is not a typical mitigation activity the Conservancy proposes that this project be credited at a greater than normal ratio (e.g. 50:1). The Conservancy will request official closure of this project in 2007.

RP-2 Linden Farm

The purpose of this project is to install livestock exclusion fencing and conduct riparian buffer planting at the Linden Farm property in Orange County. The project was initiated and sponsored by the Friends of the Rappahannock. The funding for this project was approved by the Corps on July 30, 2002. The funding provided, in part, to place 28 acres of the property under a conservation easement. This protected mitigation area was in conjunction with an adjacent 90 acres the Chesapeake Bay Foundation (CBF) placed under easement through their own program. CBF currently holds and monitors the easement on the property. Long-term protection of the property is achieved through the monitoring and enforcement of the easement by CBF. Monitoring was not required for this project and success standards were not associated with the site activities.

The Linden Farm property is an active cattle farm located in Orange County. The property was identified by the Friends of the Rappahannock as a priority site to improve water quality in the Mountain Run watershed. Mountain Run (one bank), several unnamed tributaries (both banks), and a pond are located on the property. Prior to the project activities, cattle had access to these systems, leading to the degradation of water quality through the direct addition of fecal material and sedimentation. In the fall of 2002, the Conservancy installed 10,745 linear feet of livestock exclusion fencing, which excluded cattle from 7,742 linear feet of channel and the pond. The Conservancy also conducted riparian buffer planting along 2,000 linear feet of the same tributary in the fall of 2003. The width of the buffer ranged from approximately 100 to 300 feet along both banks. Additional livestock exclusion measures and riparian buffer planting at the site were funded by CBF.

The CBF initiated their site monitoring in 2003. On August 4, 2005, the Conservancy met with CBF to discuss the conditions of the fencing and riparian buffer plantings. The Conservancy contacts CBF annually to discuss the condition of the fencing and plantings at the site. No problems have been noted at the site to date. The Conservancy will request official closure of this project in 2007.

RP-3 Rappahannock River Fish Passage

The purpose of this project is to restore historical ranges for certain species of fishes by providing passage over tributary barriers that exist on Claiborne Run and White Oak Run, both tributaries of the Rappahannock River. The project was identified and sponsored by the Virginia Department of Game and Inland Fisheries (DGIF) and the Virginia Commonwealth University. The funding for this project was approved by the Corps on December 5, 2002. Long-term protection and monitoring were not required for this project, and success standards were not associated with the site activities.

The scope of work for this project included the installation of Alaskan steep-pass structures to allow the migration of anadromous fishes including shads and herrings, as well as, resident and semi-migratory fishes. The White Oak Run passage, located in Stafford County near Fredericksburg, was installed in the spring of 2005. The Conservancy worked with the contractor, the DGIF, and the United States Fish and Wildlife Service to review and conduct required changes to the passage during 2005 to assure that it would achieve the intended objective of fish passage. While not under any contractual obligation, DGIF has agreed to conduct monitoring of the fish passage. Due to landowner conflicts, the proposed passage at Claiborne Run will not be constructed. The Conservancy will request official closure of this project in 2007.

RP-4 Upper Rappahannock (City of Fredericksburg)

The purpose of this project is to conduct stream and the associated upland riparian buffer preservation along a significant length of the Rappahannock and Rapidan Rivers (and associated tributaries) on a property owned by the City of Fredericksburg. The initial funding for this project was approved by the Corps on June 30, 2003, with two subsequent approvals on May 23, 2005, and July 27, 2006. The Conservancy, and partners, is currently negotiating a land acquisition deal to purchase a conservation easement on approximately 4,232 acres along the two major rivers. The Conservancy, the Virginia Outdoors Foundation, and the Virginia Department of Game and Inland Fisheries will co-hold the easement. Long-term protection of the site will be achieved through the monitoring and enforcement of the easement. No additional monitoring is required for this project.

This property lies in the counties of Stafford, Spotsylvania, Culpeper, Fauquier, and Orange. The property to be protected by this easement creates a virtually unfragmented riparian corridor immediately upstream of the Embrey dam, protecting the aquatic habitat for American shad and other anadromous fish that has only recently been made accessible by the removal of that obstacle. The Upper Rappahannock watershed has been identified by the Conservancy as a landscape-scale conservation area. The determination resulted from the Mott Foundation research undertaken by the Freshwater Initiative of The Conservancy in the Southeastern United States. In addition to the aquatic communities, the Upper Rappahannock watershed also contains three forest matrix blocks--the Northern Shenandoah, the Watery Mountains, and the Culpeper Flatwoods. The Upper Rappahannock River watershed contains some of the best remaining high quality Blue Ridge foothill streams and inner Piedmont rivers. It supports healthy freshwater mussel and fish communities including strong populations of the dwarf wedgemussel (*Alasmidonta heterodon*) and three other imperiled mussels. In addition, the City's riparian lands provide excellent habitat for the bald eagle (*Haliaeetus leucocephalus).* The Department of Conservation and Recreation (DCR) documented Natural Heritage element occurrences of bald eagles along the Rappahannock on or near the City's property. The permanent protection of these riparian lands will also protect the habitat and spawning grounds for alosids such as the American shad. This habitat was recently made accessible by the Corps upon removal of the Embrey Dam. In addition, DCR has identified Natural Heritage element occurrences of the federally endangered dwarf wedgemussel (*Alasmidonta heterodon)* in reaches of the Rappahannock River protected by this easement.

The purchase of this easement will provide upland riparian buffer preservation along an estimated 107,584 linear feet (20.40 miles) of the Rappahannock River (68,634 linear feet along both banks and 38,950 linear feet along a single bank), 60,783 linear feet (11.50 miles) of the Rapidan River (37,115 linear feet along both banks and 23,668 linear feet along a single bank), and 135,930 linear feet (25.70 miles) of both banks of tributaries to these rivers. The total linear feet of riparian buffer protected by this project is 304,297 or 57.60 miles. The proposed buffer preservation includes a minimum 100 foot wide (per bank) "no touch buffer" along the entire project for a total mitigation area of 1,253.38 acres. The remaining 2,978.62 acres may be subject to activities that exclude its appropriateness as compensatory

mitigation, but can be viewed as additional protected acreage as they will not be developed.

The Conservancy anticipates closing on the easement and completing the surface water delineation or assessment in 2007.

RP-5 Rappahannock River (Wellford)

The purpose of this project is to conduct non-tidal wetland and upland buffer preservation at the Wellford Farms property in Richmond County. The funding for this project was approved by the Corps on April 21, 2005. The Conservancy proposed to buy the timber rights for an 18-acre portion of the property including wetlands and upland buffer. The property was placed under easement on April 5 2005, which is held and monitored by the Virginia Outdoors Foundation (VOF). Long-term protection of this site is achieved through the monitoring and enforcement of this easement by VOF. No additional monitoring is required for this project.

The Conservancy negotiated purchase of a conservation easement to extinguish the timber rights on 18.0 acres containing approximately 16.4 acres of forested wetlands and 1.6 acres of upland buffers on the property. A confirmed delineation of the site is required to determine mitigation credit. The Conservancy anticipates closing this project in 2007.

RP-6 Rapidan River Site

The purpose of this project is to conduct a real estate appraisal of a 28 acre site for a potential wetland restoration/enhancement project. The funding for this appraisal was approved by the Corps on September 9, 2005. However, the project was not pursued due to landowner issues. The Conservancy will request official closure of this project in 2007.

Roanoke River Basin

The Roanoke River Basin is comprised of seven HUCs (03010101, 03010102, 03010103, 03010104, 03010105, 03010106 and 0304010) encompassing the Roanoke headwaters and the Dan River draining south into North Carolina. This basin is located within both the Conservancy's Piedmont and Central Appalachian Forest Ecoregions. Conservation targets include Ridge and Valley Rivers, calcareous seeps/fens, basic mesic forests, acidic oak pine forests, calcareous woodlands/forests, and warmwater fish communities including orangefin, madtom, Roanoke hogsucker, bigeye jumprock, Roanoke logperch and riverweed darter.

The projects discussed in this section serve as mitigation for permitted impacts within the Roanoke River Basin for which the Fund was used as compensatory mitigation. Through 2006, the Conservancy has requested funds to pursue three mitigation projects in this basin. The Corps has authorized funds for two of these projects. Each approved project provides mitigation for permitted impacts to streams.

The Conservancy requested funding for a third project to conduct a real estate appraisal of a property to pursue a potential stream and wetland mitigation project. This project is pending Corps decision on the authorization of funds.

The following table provides a summary of projects for which funds were approved in the Roanoke River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. A detailed summary of each project is included in the section below.

Table 51: Approved Project Summary for the Roanoke River Basin.

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)
RO-1	Apple Orchard Mountain (Edwards)	M	6/7/05	0.00	0.00	180,000.00
RO-2	Apple Orchard Mountain (City of Bedford)	M	6/7/05	0.00	0.00	15,000.00
		M	2/7/06	0.00	0.00	8,250.00
			Totals	**0.00**	**0.00**	**203,250.00**
			Grand Total	**203,250.00**		

M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey

As noted in Section II, the Fund has been used to mitigate for 4,635 linear feet of permitted stream impacts in the Roanoke River Basin through 2006. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Roanoke River Basin.

Table 52: Stream Project Summary for the Roanoke River Basin.

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
RO-1	PC	36.50	5,220	Riparian buffer preservation along 2,379 lf of the right bank of Little Stony Creek with an existing mature wooded buffer width of 200 feet. Within this reach, riparian buffer preservation along 659 lf of the left bank with an existing mature wooded buffer width of primarily 125 feet. Stream system preservation along both banks of 2,841 lf of three unnamed tributaries to Little Stony Creek with an existing mature wooded buffer width of 200 feet (except for several areas of a minimum 125 foot buffer).	16.50
RO-2	PC	3.96	788	Riparian buffer preservation along 788 lf of the right bank of Little Stony Creek with an existing mature wooded buffer width of 200 feet. Within this reach, riparian buffer preservation along 300 lf of the left bank with an existing mature wooded buffer width of 50 feet.	9.79
	Totals	**40.46**	**6,008**		**26.29**

ac - acre
lf - linear feet
LP - Pending finalization of land protection
P - Planning / permitting
D - Pending delineation / assessment
I - Restoration / Enhancement activities in progress
M - Mitigation monitoring
CA - Corrective actions necessary
PC - Pending project closure

* Project includes wetland mitigation.

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).

Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").

Project Summaries

The following section provides a detailed summary of each project located within the Roanoke River Basin for which the Corps has authorized funds through 2006. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

RO-1 Apple Orchard Mountain (Edwards)

The purpose of this project is to conduct stream and the associated upland riparian buffer preservation at the Edwards property in Bedford County. The project was initiated by the Western Virginia Land Trust (WVLT) to preserve the pristine stream channels and buffers located on the 53 acre parcel. The funding for this project was approved by the Corps on June 7, 2005. The WVLT acquired the property on August 12, 2005. The WVLT is pursuing the purchase and transfer of the property to the National Park Service (NPS), in part, to provide protection and management of the Blue Ridge Parkway system. Funds from the sale of this property will be returned to the general balance of the Fund to facilitate future mitigation projects. Stewardship of the property is the responsibility of WVLT, and following transfer of the site, the NPS. Long-term protection of the project will be achieved through a Corps approved management agreement with NPS prior to the transfer. No additional monitoring is required for this project.

The Edwards property is located on the Peaks of Otter mountain range. The area provides habitat for the indigenous Peaks of Otter Salamander. Little Stony Creek and three unnamed tributaries are located on the property. The stream channels are in stable condition and require no restoration or enhancement activities. The project parcel and surrounding properties are pristine, mature, mixed hardwood forests with virtually no disturbances. The project is adjacent to two parcels currently owned by the NPS and adjacent to a parcel protected by a Virginia Outdoors Foundation easement. The majority of the watersheds are included in the parcel and/or on NPS land. There is minimal development potential upstream due to the surrounding property's slope and ownership. The site is also adjacent to and south (downstream) of the City of Bedford project (RO-2).

The Conservancy completed a surface water delineation on April 21, 2005, and determined that 5,220 linear feet of stream channel is preserved at the site. The Corps confirmed this determination on March 18, 2006. Of this total, approximately 3,500 linear feet of channel has both banks located on the property with a minimum of 100 foot wide "no-touch" wooded buffers (the majority of the buffer is 200 feet). Approximately 1,720 linear feet of the left bank of Little Stony Creek is located on NPS land, which will by protected by the agency. The mitigation area for this project is 36.50 acres which includes the "no-touch" buffers. The remaining 16.50 acres may be subject to activities that exclude its appropriateness as compensatory mitigation, but can be viewed as additional protected acreage as they will not be developed.

The Conservancy anticipates that the property will be sold to the NPS within the next two years. After the sale, the Conservancy will request official closure of this project.

RO-2 Apple Orchard Mountain (City of Bedford)

The purpose of this project is to conduct stream and the associated upland riparian buffer preservation at the City of Bedford property in Bedford County. The project was initiated by the Western Virginia Land Trust (WVLT) to preserve the pristine stream channels and buffers located on the 13.75 acre parcel. The initial funding for this project was approved by the Corps on June 7, 2005, with a second funding request approved on February 7, 2006. The WVLT acquired the property on April 4, 2006. The property will ultimately be sold or transferred to the National Park Service (NPS), in part, to provide protection and management of the Blue Ridge Parkway system. Funds from the sale of this property will be returned to the general balance of the Fund to facilitate future mitigation projects. Stewardship of the property is the responsibility of WVLT, and, following transfer of the site, the NPS. Long-term protection of the project will be achieved through a Corps approved management agreement with NPS prior to the transfer. No additional monitoring is required for this project.

The City of Bedford property is located on the Peaks of Otter mountain range. The area provides habitat for the indigenous Peaks of Otter Salamander. Little Stony Creek lies along the eastern edge of the property. Along the majority of the reach, only the right bank of the channel is located on the parcel. The stream channel is in stable condition and requires no restoration or enhancement activities. The project parcel and surrounding properties are pristine, mature, mixed hardwood forests with virtually no disturbances. The project is surrounded on three sides by NPS land. The majority of the watershed is included in the parcel and/or on NPS land, and there is minimal development potential upstream due to the surrounding property's slope and ownership. The site is also adjacent to and north (upstream) of the Edwards project (RO-1).

The Conservancy completed a surface water delineation on April 21, 2005, and determined that 788 linear feet of stream channel is preserved at the site. The Corps confirmed this determination on March 18, 2006. Of this total, approximately 300 linear feet of channel has both banks located on the property with a maximum "no-touch" buffer along the right bank of 50 feet and the buffer width along the right bank of 200 feet. Approximately 488 linear feet of the left bank of Little Stony Creek is located on NPS land,

which will by protected by the agency. The mitigation area for this project is 3.96 acres which includes the "no-touch" buffer. The remaining 9.79 acres may be subject to activities that exclude its appropriateness as compensatory mitigation, but can be viewed as additional protected acreage as they will not be developed.

The Conservancy anticipates that the property will be sold or transferred to the NPS within the next two years. After the sale, the Conservancy will request official closure of this project.

Shenandoah River Basin

The Shenandoah River Basin is comprised of four HUCs (02070004, 02070005, 02070006, and 02070007) encompassing the headwaters of the Shenandoah River to the Potomac River. This basin is located within the Conservancy's Central Appalachian Forest Ecoregion. Conservation targets include Blue Ridge stream and tributaries, Central Appalachian mixed hardwood forest matrix, cave invertebrate communities, endangered wood turtles, freshwater mussels, and sportfish and nongame fish populations.

The projects discussed in this section serve as mitigation for permitted impacts within the Shenandoah River Basin for which the Fund was used as compensatory mitigation. Through 2006, the Conservancy has requested funds to pursue two mitigation projects in this basin. The Corps has authorized funds for both projects. Each project provides mitigation for permitted impacts to streams.

The following table provides a summary of projects for which funds were approved in the Shenandoah River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. A detailed summary of each project is included in the section below.

Table 53: Approved Project Summary for the Shenandoah River Basin.

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)
SH-1	Cedar Creek (Mowery)	M	9/28/06	0.00	0.00	1,576,000.00
SH-2	Blacks Run Site	M	12/7/06	0.00	0.00	496,535.00
			Totals	**0.00**	**0.00**	**2,072,535.00**
			Grand Total	**2,072,535.00**		

M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey

As noted in Section II, the Fund has been used to mitigate for 11,425 linear feet of permitted stream impacts in the Shenandoah River Basin through 2006. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Shenandoah River Basin.

Table 54: Stream Project Summary for the Shenandoah River Basin.

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
SH-1	P	16.00	1,700	Riparian buffer planting 200 feet wide along each bank of 1,700 linear feet of Buffalo Marsh Run. Channel banks along this reach stabilized with live stakes.	94.00
SH-2	LP, D, P	16.90	4,745	Priority 1 relocation of 2,200 lf and Priority 2 restoration of 1,175 lf of Blacks Run. Priority 2 restoration along 830 lf of Seibert Creek and along 540 lf of an unnamed tributary to Seibert Creek. Riparian buffer planting ranging from 20 to 200 feet wide along both banks of Blacks Run, 20 to 80 feet wide along both banks of Seibert Creek, and 50 to 110 feet wide along both banks of the unnamed tributary.	0.00
	Totals	**32.90**	**6,445**		**94.00**

ac - acre
lf - linear feet
LP - Pending finalization of land protection
P - Planning / permitting
D - Pending delineation / assessment
I - Restoration / Enhancement activities in progress
M - Mitigation monitoring
CA - Corrective actions necessary
PC - Pending project closure

* Project includes wetland mitigation.

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).

Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").

Project Summaries

The following section provides a detailed summary of each project located within the Shenandoah River Basin for which the Corps has authorized funds through 2006. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

SH-1 Cedar Creek (Mowery)

The purpose of this project is to plant a woody riparian buffer and stabilize the stream banks with live stakes at the Mowery property (also known as the Ogden's Cave project) in Frederick County. The Department of Conservation and Recreation (DCR) Natural Heritage Program identified this site and approached the Conservancy to complete this project through the Fund. The Virginia Cave Conservancy was also involved with securing acquisition of this project. The funding for this project was approved by the Corps on September 28, 2006. The Conservancy proposed to exclude cattle from the stream through the purchase of the property and plant a woody riparian buffer and live stakes along approximately 1,700 linear feet of Buffalo Marsh Run. The Conservancy purchased the 110 acre site on December 27, 2006. The Conservancy will hold ownership of the property until the DCR purchases the site, which is projected to occur in 2007. The proceeds of the sale will be returned to the Fund to facilitate future mitigation projects. Long-term protection of the site will be accomplished through the dedication of the site as a State Natural Area Preserve. The DCR will manage and oversee the property, as well as, enforce the restrictions placed on the property by the deed of dedication. Stream monitoring events are scheduled for monitoring years 1, 2, 3, 5, 7, and 10, with reports submitted to the Corps.

Buffalo Marsh Run is a major tributary to Cedar Creek, a system the Conservancy has identified as a priority conservation area due to the condition of the watershed and the presence of both wood turtles and freshwater mussels. Although the site does not adjoin other protected lands, there are several other protected sites upstream and downstream of the property. The protection of this site also serves to protect the large karst cave located on the property, as well as, the numerous DCR Natural Heritage elements identified within the cave.

Prior to the Conservancy involvement, nearly the entire property was used to graze cattle, which used the stream as their sole water source. The livestock prevented the colonization of woody vegetation in the pasture and caused stream bank and channel degradation, in addition to decreasing water quality through the direct addition of fecal material. As part of the mitigation activities, the riparian area within 200 feet of each bank will be planted with a diverse mixture of native hardwoods, and the banks will be stabilized through the planting of live stakes for the entire length (approximately 1,700 linear feet) of the channel. In addition, the cattle will be removed from the stream and buffer area through ownership restrictions. The mitigation area for the project is 16 acres, which includes the "no-touch" buffer. The remaining 94 acres will be managed at DCR's discretion and may be subject to activities that exclude its appropriateness as compensatory mitigation, but can be viewed as additional protected acreage as they will not be developed.

By excluding the livestock, the Conservancy will significantly enhance the stream system by removing a major factor contributing to stream instability and poor water quality. By removing the cattle and planting the vegetation, the stream banks should re-stabilize, reducing sedimentation in the channel and increasing overall habitat. These measures are all that is necessary to restore stream function and improve water quality at this site.

The live stake and riparian buffer planting is scheduled for the spring of 2007 with the first year monitoring event completed by December 2007.

SH-2 Blacks Run Site

The purpose of this project is to conduct stream restoration activities at a park in the City of Harrisonburg. The Canaan Valley Institute (CVI) identified this site and approached the Conservancy for completing this project through the Fund. The funding for this project was approved by the Corps on December 7, 2006. The Conservancy proposed to conduct restoration activities along approximately 3,375 linear feet of Blacks Run, 830 linear feet of Seibert Creek, and 540 linear feet of an unnamed tributary to Seibert Creek. The City of Harrisonburg will donate a conservation easement on the riparian corridors (16.90 acres) on the property to be held by Valley Conservation Council (VCC) and the Virginia Department of Conservation and Recreation. The Conservancy anticipates this donation to occur in 2007. Long-term protection of the site will be accomplished through the monitoring and enforcement of the easement by the VCC. The schedule for the stream monitoring and reporting events will be finalized through the permitting process.

The CVI identified this project through their association with the local watershed group, the Friends of Blacks Run Greenway. This group identified this stream reach as a priority site to address sedimentation problems in the watershed. City officials have also expressed concerns with the erosion and sedimentation problems at the site, and are fully supportive of the restoration project. Over ten miles of Blacks Run are currently listed as a Virginia Department of Environmental Quality 303d listed stream, including the reach through Purcell Park. Restoration at this site can address some of the non-point sources identified as causes, urban and human. As part of the Shenandoah-Potomac drainage and the Chesapeake Bay watershed, this project contributes to water quality improvement goals set for the Bay. The City, the Friends of Blacks Run Greenway, and CVI are interested in showcasing natural stream

channel design restoration activities to other landowners, having the site serve as a demonstration and educational project and will actively campaign to have this project serve as a catalyst for additional stream projects in this watershed.

Blacks Run is currently incised due to a headcut that is moving upstream through the project site. The stream is not able to access the floodplain during bankfull events, leading to additional incision and bank erosion. If the restoration project is not completed, the stream will likely continue to degrade. The mitigation activities include the Priority 1 relocation (approximately 2,200 linear feet) and Priority 2 restoration (approximately 1,175 linear feet) of Blacks Creek and the Priority 2 restoration of Siebert Creek (approximately 830 linear feet) and the unnamed tributary (approximately 540 linear feet). The riparian buffer area will be planted with woody species for a width ranging from approximately 20 feet to 200 feet along each bank of all of the channels.

The Conservancy anticipates that the easement will be finalized in 2007. Once the easement has been finalized, the Conservancy will finalize the planning process to implement this project.

Tennessee River Basin

The Tennessee River Basin is comprised of six HUCs (06010205, 06010206, 06010101, 06010102, 05070201, and 05070201) encompassing the headwaters of the Clinch, Holston, and Powell Rivers draining south into Tennessee. This basin is located within the Conservancy's Cumberland and Southern Ridge Valley Ecoregion. Conservation targets include endemic mussels and associated assemblages, Appalachian bogs, fens and seeps, Southern Appalachian forest matrix, upper Tennessee fish community, bats, karst communities, calcareous river-fronting slope communities and limestone and dolomite barrens.

The projects discussed in this section serve as mitigation for permitted impacts within the Tennessee River Basin for which the Fund was used as compensatory mitigation. Through 2006, the Conservancy has requested funds to pursue five mitigation projects in this basin. The Corps has authorized funds for four of these projects. Two projects (TN-1 and TN-2) provide mitigation for permitted impacts to streams, and one project (TN-3) provides mitigation for permitted impacts to non-tidal wetlands. The fourth project (TN-4) involves the authorization of funds to conduct a real estate appraisal of a property to pursue a potential stream and non-tidal wetland mitigation project.

The Conservancy proposed one additional project to conduct a boundary survey for a potential non-tidal wetland mitigation project. This project is pending Corps decision on the authorization of funds.

The following table provides a summary of projects for which funds were approved in the Tennessee River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. A detailed summary of each project is included in the section below.

Table 55: Approved Project Summary for the Tennessee River Basin.

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)
TN-1	Gray's Island (Holston Land Company)	M	3/14/97	0.00	0.00	7,000.00
TN-2	Barns Chapel (Garry Smith Enterprises, Inc.)	M	3/28/06	0.00	0.00	305,000.00
TN-3	Barns Chapel (Atwell)	M	3/28/06	39,000.00	0.00	0.00
TN-4	Upper Clinch River Site	A	4/23/06	3,000.00	0.00	3,000.00
			Totals	**42,000.00**	**0.00**	**315,000.00**
			Grand Total	**357,000.00**		

M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey

The following table summarizes the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Tennessee River Basin. In addition the table provides the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The table does

not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

Table 56: Non-Tidal Wetland Project Summary for the Tennessee River Basin.

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed
Project ID	Status	Rest/Cr	Pres	Enh	Rest	Pres	Acres	Credits
TN-3	D,PC			4.47		1.65	6.12	1.57
Sub-totals		**0.00**	**0**	**0**	**0**	**1.65**	**6.12**	**1.57**

Total Acres of Non-Tidal Impacts	**15.09**
Total Mitigation Liability	**23.19**
Total Proposed Credits	**1.57**
Percent of Wetland Acreage Replacement	**0.0**

LP - Pending finalization of land protection	I - Restoration/Enhancement/Creation activities in progress
P - Planning / permitting	M - Mitigation monitoring
D - Pending delineation / assessment	CA - Corrective actions necessary
	PC - Pending project closure

As noted in Section II, the Fund has been used to mitigate for 7,304 linear feet of permitted stream impacts in the Tennessee River Basin through 2006. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Tennessee River Basin. The table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

Table 57: Stream Project Summary for the Tennessee River Basin.

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
TN-1	PC	15.50	6,000	Riparian buffer preservation of 4,000 lf along the right bank of the Clinch River and 2,000 lf along both banks of Cub Creek with an existing mature wooded buffer ranging from 75 to 100 feet wide. Livestock exclusion fencing installed to protect the same reaches of the Clinch River and Cub Creek.	284.50
TN-2	D, P	6.70	1,580	Priority 1 relocation of 1,580 lf of Rattle Creek. Riparian buffer planting ranging from 35 to 250 feet along each bank for the length of the channel. Reconfiguration of an off-line pond and buffer plantings approximately 25 feet wide from the pond. Livestock exclusion fencing installed to protect 1,580 linear feet of the stream and the pond.	0.00
	Totals	**22.20**	**7,580**		**284.50**

ac - acre
lf - linear feet
LP - Pending finalization of land protection
P - Planning / permitting
D - Pending delineation / assessment
I - Restoration / Enhancement activities in progress
M - Mitigation monitoring
CA - Corrective actions necessary
PC - Pending project closure

* Project includes wetland mitigation.

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).

Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").

Project Summaries

The following section provides a detailed summary of each project located within the Tennessee River Basin for which the Corps has authorized funds through 2006. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

TN-1 Gray's Island (Holston Land Company)

The purpose of this project is to exclude livestock and preserve an existing mature forested upland buffer along two stream channels at the Gray's Island site located in Scott County. The funding for this project was approved by the Corps on March 14, 1997. The Conservancy proposed to install livestock exclusion fencing and preserve a mature wooded buffer along 6,000 linear feet of the Clinch River and Cub Creek. The property was originally purchased by the Conservancy on October 24, 1995. The site is currently owned by a private individual, with a conservation easement held and monitored by the Conservancy. Long-term protection of the site is accomplished through the monitoring and enforcement of the easement by the Conservancy. No additional monitoring is required for this project.

The project was originally pursued by the Conservancy to achieve conservation efforts at Gray's and Simone's Islands, significant sites for freshwater mussels including the following federally endangered species: fin-rayed pigtoe *(Fusconaia cuneolus)*; shiny pigtoe *(Fusconaia cor)*; Appalachian monkeyface *(Quadrula sparsa)*; rough rabbits foot *(Quadrula cylindrical)*; and birdwing pearly mussel *(Lemiox*

rimosus).

The property is approximately 300 acres of prime farmland, bordered by the right bank of the Clinch River (approximately 4,000 linear feet). Both banks of Cub Creek (approximately 2,000 linear feet of stream channel) are also located on the property. Livestock originally had access to both the Clinch River and Cub Creek, which contributed to stream bank degradation, in addition to decreasing water quality through the direct addition of fecal material.

In 1997, the Conservancy installed 6,000 linear feet of livestock exclusion fencing to permanently remove the livestock from 4,000 linear feet of the right bank of the Clinch River and from 2,000 linear feet of both banks of Cub Creek. The fencing was placed a minimum of 75 feet from each bank. The project also preserved the existing mature forest buffer along both reaches. Additional riparian buffer planting was not required as the banks were already forested by mature hardwoods composed of predominantly oak, maple, and hickory species. Since the fencing was installed, the buffer is developing a multi-story canopy and Cub Creek is showing signs of re-stabilizing within the channel. The mitigation area for the project is 15.50 acres, which includes the "no-touch" buffer. The remaining 284.50 acres may be subject to activities that exclude its appropriateness as compensatory mitigation, but can be viewed as additional protected acreage as they will not be developed.

The installation of alternate water sources, and additional fencing work at the site, was funded by the Tennessee Valley Authority. The Conservancy will request official closure of this project in 2007.

TN-2 Barns Chapel (Garry Smith Enterprises, Inc.)

The purpose of this project is to conduct stream restoration activities and exclude livestock from a stream and pond at the Smith property located near Abingdon in Washington County. The funding for this project was approved by the Corps on March 28, 2006. The Conservancy proposed to install livestock exclusion fencing, reconfigure a small pond, and conduct Priority 1 relocation on approximately 1,580 linear feet of Rattle Creek located on the property. The landowner donated a conservation easement, which is held by the Conservancy, on the riparian corridor and the area surrounding an off-line pond (total of 6.70 acres of "no-touch" area) on April 26, 2006. Long-term protection of the site is accomplished through the monitoring and enforcement of the easement by the Conservancy. The schedule for the stream monitoring and reporting events will be finalized through the permitting process.

The Conservancy has identified the Barns Chapel Portfolio Conservation Area as a critical area for protection. The Smith property is located adjacent to and upstream of the Atwell project (TN-3). The Atwell site consists of six acres of an existing calcareous seep bog that provides habitat for showy lady's slipper, and seven widely disjunct species, five reported new for Southwest Virginia in 1989. In addition to significantly enhancing the stream system by removing a major factor contributing to stream instability and poor water quality, reconnecting the stream to its historical floodplain, and re-establishing the degraded wetlands, the restoration project at the Smith property will also protect the resources on the Atwell site.

Prior to the Conservancy involvement, the entire property was used to graze cattle, which used the stream as their sole water source and contributed to the degredation of the wetlands. The channel is incised with many areas of significant erosion along the banks. The deepened channel has also helped to drain the existing wetlands at the site by lowering the water table. In addition to the traditional drainage methods that have been implemented in the floodplain, which include drainage ditches and subsurface drainage, the channel incision has resulted in further lowering of the water table and loss of wetland hydrology and

function.

The mitigation activities for this project include the Priority 1 relocation of approximately 1,580 linear feet of Rattle Creek which will also enhance the existing four acres of wetlands along the banks, the reconfiguration of a farm pond to ensure the site success, and the removal of cattle from all three resources at the site. The pond and both banks of the channel will be buffered with woody vegetation ranging from 35 to 250 feet. Due to the limited buffer width at the site, this project is considered solely a stream mitigation project.

The Conservancy installed approximately 2,500 linear feet of livestock exclusion fencing at the site on August 8, 2006. The Conservancy is also coordinating the installation of three alternate water source structures at the site. A delineation of surface waters and wetlands on the property, conducted on July 18, 2006, is pending confirmation by the Corps. The Conservancy is finalizing the planning and permitting process.

TN-3 Barns Chapel (Atwell)

The purpose of this project is to conduct a non-tidal wetland enhancement project at the Atwell property located near Abingdon in Washington County. The funding for this project was approved by the Corps on March 28, 2006. The Conservancy proposed to install livestock exclusion fencing around the 6.12 acre property to preserve and enhance approximately four acres of wetlands at the site. The Conservancy purchased the parcel on May 17, 2006. Long-term protection of the site is accomplished through the ownership by the Conservancy. No additional monitoring is required for the project.

The Conservancy has identified the Barns Chapel Portfolio Conservation Area as a critical area for protection. The site consists of approximately six acres of an existing calcareous seep bog that provides habitat for showy lady's slipper, and seven widely disjunct species, five reported new for Southwest Virginia in 1989. Rattle Creek forms the western boundary of the calcareous seepage bog and the swamp itself is formed by approximately five spring heads that drain across a relatively flat floodplain into the stream. Prior to the Conservancy's involvement, cattle had full access to both the stream and calcareous seep bog. The site is also adjacent to and north (downstream) of the Smith (TN-2) stream restoration project. The Smith restoration project will aid in protecting the resources on the Atwell property.

A delineation of surface waters and wetlands on the property was conducted on July 18, 2006, and is pending confirmation by the Corps. Approximately 4.47 acres of wetlands were identified on the property. Much of this area is floodplain wetland associated with Rattle Creek and the associated seeps and tributaries that entered Rattle Creek from the eastern edge. Dominant species in the swamp include *Thuja occidentalis, Fraxinus pennsylvanicum, Hypericum densiflorum, Carex spp. and Typha latifolia*. The remaining uplands are primarily comprised of mixed pine – hardwood forest. Approximately 1,260 linear feet of Rattle Creek is located within the property boundary. However, due to the limited upland buffer width, this project is considered solely a wetland mitigation project.

The Conservancy installed approximately 1,150 linear feet of livestock exclusion fencing at the site on August 14, 2006. By excluding the livestock, the Conservancy will protect the resources at the site from additional degradation by the cattle. The Conservancy anticipates that the delineation will be confirmed in 2007. Following the confirmation, the Conservancy will request the official closure of this project.

TN-4 Upper Clinch River Site

The purpose of this project is to conduct a real estate appraisal of this approximate 120 acre property for a potential stream and non-tidal wetland restoration/enhancement project. The site is bordered by the

Clinch River. The funding for this appraisal was approved by the Corps on April 23, 2006. The Conservancy is in negotiations with the landowner concerning the potential to purchase the property.

York River Basin

The York River Basin is comprised of three HUCs (02080105, 02080106, and 02080107) encompassing the headwaters of the Mattaponi, Pamunkey and York Rivers draining east into the Bay. This basin is located within both the Conservancy's Piedmont and Chesapeake Bay Lowland Ecoregions. Conservation targets include tidal freshwater systems, small Piedmont streams and tributaries, bald cypress forests, anadromous fishes, migratory land birds and raptors, seepage wetlands, Coastal Plain mixed pine-hardwood forest matrix, and calcareous forests.

The projects discussed in this section serve as mitigation for permitted impacts within the York River Basin for which the Fund was used as compensatory mitigation. Through 2006, the Conservancy has requested funds to pursue nine mitigation projects in this basin. The Corps has authorized funds for all nine projects. Two projects (YK-3 and YK-8) provide mitigation for permitted impacts to both non-tidal wetlands and streams, four projects (YK-1, YK-2, CB-8/YK-4, and YK-7) provide mitigation for permitted impacts to non-tidal wetlands, and one project (YK-9) provides mitigation for permitted impacts to streams.

One project (YK-5) provides funds to complete a feasibility study to access the mitigation potential to address permitted impacts to non-tidal wetlands, tidal wetlands, and streams within this basin. The final project (YK-6) involved the authorization of funds to conduct a real estate appraisal of a property to pursue potential a stream and non-tidal wetland mitigation project. The Conservancy is in negotiations with the landowner concerning the potential to purchase an easement for project YK-6.

Due to the location of the site, one of the projects (CB-8/YK-4) mitigates for impacts within both the York River Basin and the Chesapeake Bay Basin. The total funds authorized by the Corps and crediting value for this project have been appropriately divided between the two basins.

The following table provides a summary of projects for which funds were approved in the York River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. A detailed summary of each project is included in the section below.

Table 58: Approved Project Summary for the York River Basin.

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)
YK-1	Po River (Leonard)	M	3/28/03	40,000.00	0.00	0.00
YK-2	Mattaponi River (Gwathmey 1)	M	2/5/04	50,000.00	0.00	0.00
		M	2/20/04	909,200.00	0.00	0.00
YK-3	Dragon Run (Beldon)	M	8/5/04	43,800.00	0.00	43,800.00
CB-8 / YK-4	Upper Crab Neck (BP North America)	M	4/21/05	7,500.00	0.00	0.00
YK-5	Cumberland Marsh (Healthvest, Inc.)	F	7/1/05	12,500.00	0.00	12,500.00
YK-6	Mattaponi River Site	M	8/12/05	45,300.00	0.00	30,200.00
		M	5/2/06	6,570.00	0.00	4,380.00
YK-7	Mattaponi River Site	M	6/22/06	22,145.00	0.00	0.00
YK-8	Mattaponi River (Bach 1)	A	8/11/06	6,500.00	0.00	0.00
		M	12/15/06	192,100.00	0.00	33,900.00
YK-9	Mattaponi River Site	M	12/15/06	0.00	0.00	14,077.00
			Totals	**1,335,615.00**	**0.00**	**138,857.00**
			Grand Total	**1,474,472.00**		

M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey

The following table summarizes the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the York River Basin. In addition, the table provides the amount of impact acres in the Basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

Table 59: Non-Tidal Wetland Project Summary for the York River Basin.

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed	Additional
Project ID	**Status**	**Rest/Cr**	**Pres**	**Enh**	**Rest**	**Pres**	**Acres**	**Credits**	**Protected Acreage**
YK-1	D,PC		6.10			13.90	20.00	1.31	
YK-2	M	67.50	48.57	2.50	33.00	53.43	205.00	78.06	
***YK-3**	PC		2.11			2.15	4.26	0.32	34.32
CB-8/YK-4	PC		67.40			74.80	142.20	10.48	
YK-7	LP	1.74			2.01	6.67	10.42	2.21	
***YK-8**	D		103.00			50.18	153.18	12.81	
Sub-totals		**69.24**	**221.08**	**2.50**	**35.01**	**201.13**	**535.06**	**105.18**	**34.32**

Total Acres of Non-Tidal Impacts	**9.10**
Total Mitigation Liability	**17.29**
Total Proposed Credits	**105.18**
Percent of Wetland Acreage Replacement	**761.1**

LP - Pending finalization of land protection	I - Restoration/Enhancement/Creation activities in progress
P - Planning / permitting	M - Mitigation monitoring
D - Pending delineation / assessment	CA - Corrective actions necessary
	PC - Pending project closure

* Project includes stream or tidal wetland mitigation.

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program

As noted in Section II, the Fund has been used to mitigate for 1,282 linear feet of permitted stream impacts in the York River Basin through 2006. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the York River Basin. The table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

Table 60: Stream Project Summary for the York River Basin.

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
YK-3*	PC	7.42	978	Riparian buffer preservation of 978 lf along the right bank of Dragon Run with an existing mature wooded buffer extending 200 feet from the edge of the protected stream and wetland complex.	Reported under the wetlands summary
YK-8*	D	21.70	4,750	Riparian buffer preservation of 2,650 lf along the right bank of the Mattaponi River with a 200 foot wide existing mature wooded buffer. Riparian buffer preservation of 2,100 linear feet along both banks of two unnamed tributaries with a 200 foot wide existing mature wooded buffer.	0.00
YK-9	D	182.00	11,500	Riparian buffer preservation of 11,500 lf along the right bank of the Mattaponi River with an existing mature wooded buffer ranging from 175 to 1,400 feet wide.	132.72
	Totals	**211.12**	**17,228**		**132.72**

ac - acre
lf - linear feet
LP - Pending finalization of land protection
P - Planning / permitting
D - Pending delineation / assessment
I - Restoration / Enhancement activities in progress
M - Mitigation monitoring
CA - Corrective actions necessary
PC - Pending project closure

* Project includes wetland mitigation.

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).

Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").

Project Summaries

The following section provides a detailed summary of each project located within the York River Basin for which the Corps has authorized funds through 2006. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

YK-1 Po River (Mattaponi/York Rivers)

The purpose of this project is to conduct a non-tidal wetland and upland buffer preservation project at the Po River property in Spotsylvania County. The funding for this project was approved by the Corps on March 28, 2003. The property was purchased by the Central Virginia Battlefields Trust (CVBT) and placed under easement in February of 2003. The easement is held and monitored by the Virginia Department of Conservation and Recreation (DCR). Long-term protection will be achieved in accordance with the conservation easement. No additional monitoring is required for this project.

In addition to the water quality benefits inherent to wetland preservation, the protection of wetlands and uplands on this parcel located adjacent to the Po River assists in conservation efforts for the threatened Dwarf wedge mussel which has been identified downstream of the site. Based on a delineation of surface waters and wetlands conducted on the site in December 2006, the property contains approximately 6.1

acres of wetlands and 13.9 acres of forested uplands. The delineation will be submitted to the Corps for confirmation in 2007.

YK-2 Mattaponi (Gwathmey)

The purpose of this project is to conduct a non-tidal wetland and upland buffer restoration, wetland enhancement and wetland and upland preservation project at the Gwathmey project in King William County. The initial funding for this project was approved by the Corps on February 5, 2004. The Gwathmey project located off of State Route 600 includes two separate parcels including the Midway parcel and the Meadow Farm parcel. These parcels were originally placed under easement by the Virginia Outdoors Foundation in June of 2001; however, the Conservancy placed a more restrictive conservation easement on the parcels on April 12, 2004, that increased protection by eliminating farming or logging and allowing for restoration. Long-term protection will be achieved in accordance with the conservation easement which is held and monitored annually by the Conservancy.

As a result of historical sand and gravel mining activities at the 97-acre Midway parcel there is a 39.3-acre lake, which is the central feature of the parcel, although it contains forested upland and frontage along the Mattaponi River. A wetland delineation that was confirmed by the Corps on October 20, 2005 identified approximately 44 acres of wetlands on the Midway property consisting largely of open water in the borrow pit, although lacustrine emergent wetlands exist around the edge of the lake. Despite its origin as a human-made feature, waterfowl utilize the lake frequently and the wooded uplands along the Mattaponi River are suitable American eagle nesting habitat. In addition to preservation of wetlands and uplands, initial planning identified the opportunity for habitat enhancement through the creation of wetland benches on the lake that support emergent wetlands and re-foresting the upland areas adjacent to the lake. Because the wetland mitigation activities on the Meadow Farm parcel have the greatest likelihood of success and the greatest potential ecological benefits, emphasis has been placed upon completing these activities and it is unlikely that further wetland mitigation work at Midway parcel will be proposed.

The Meadow Farm parcel contains 106 acres of agricultural fields including converted wetlands and uplands. This project is located on an abandoned river terrace that is underlain primarily by poorly drained soils. In order to facilitate farming the site had been ditched and shallow swales were created at field breaks that drained to the field edges. This was effective at removing much of the surface water. A primary goal of the Meadow Farm parcel project is to restore a mixture of wetland types (67.5 acres) and upland mixed hardwood forest (33 acres). The site construction activities were conducted January – March 2006 and included blocking field ditching, eliminating or modifying other site drainages, and grading in certain locations to establish appropriate elevations suitable to support wetlands. The majority of the site was prepared for planting either by disking and/or plowing and use of a subsoil de-compaction method (ripping). Approximately 54,050 bare-root seedlings composed of 13 different native, woody species will be installed in early spring of 2007. A pre-emergent herbicide regimen is being used to reduce weedy competition during early establishment of the woody vegetation. Monitoring events are scheduled for monitoring years 1, 2, 3, 5, 7, and 10 with reports submitted to the Corps.

YK-3 Dragon Run (Beldon)

The purpose of this project is to conduct non-tidal wetland, stream, and the associated upland riparian buffer preservation at the Beldon property in King and Queen County. The initial funding for this project was approved by the Corps on August 5, 2004. The Conservancy purchased the site on October 4, 2004. The Conservancy is currently negotiating with the Virginia Department of Forestry who will purchase the site with a Corps-approved deed restriction in place to provide long-term protection. The funds from the land sale will be returned to the Fund to facilitate future mitigation projects. Long-term protection of the

site will be achieved in accordance with the deed restriction. No additional monitoring is required for this project.

The Beldon tract is located off of State Route 602 in King and Queen County. The Beldon tract is primarily upland with moderate slopes that are dominated by mixed pine-hardwood forest. A delineation of surface waters was conducted by the Conservancy and approved by the Corps in 2006. Approximately 2.11 acres of wetlands and 978 linear feet of stream channel (right bank only) were identified. The majority of the wetlands (~ 1.73 acres) are located along the southern boundary of the property where there is a natural drainage supporting forested wetlands along the right bank of the stream. A 200 foot "no touch" buffer along the right bank of this feature (7.42 acres) will be maintained from the outside limits of the stream and wetland system. A small (0.38 acre) depressional pool was found near State Route 602 and was perhaps a result of the road blocking the natural drainage. This wetland likely supports habitat for amphibian species due to the fact that it appears to drawn down regularly, which inhibits the establishment of predaceous fish populations. A 200 foot buffer will be maintained around this feature (2.15 acres). The remaining 34.32 acres may be subject to activities that exclude its appropriateness as compensatory mitigation, but can be viewed as additional protected acreage as they will not be developed.

In previous reports, the Beldon project was tracked in the Chesapeake Bay Basin; however, because the aquatic resources on the site that are used for mitigation occur within the watershed of a tributary of the Mattaponi, the site should be considered as mitigation for the York River Basin. The Conservancy will request official closure of this project in 2007.

CB-8/YK-4 Upper Crab Neck (BP America)
The details of this project are included under the Chesapeake Bay River Basin summary.

YK-5 Cumberland Marsh (Healthvest, Inc.)
The purpose of this project is to conduct a feasibility study to address the potential for non-tidal wetland, tidal wetland, and stream restoration at the Cumberland Marsh Preserve in New Kent County. The funding request to complete a feasibility study for the site was approved by the Corps on July 1, 2005. The Conservancy has owned and managed the preserve since December 28, 1993. Long-term protection of the site is achieved through ownership by the Conservancy.

This 1,094-acre preserve is located on the southern bank of the Pamunkey River, and also contains Holt's Creek and the associated tributaries. The preserve is a mixture of freshwater tidal marsh, streams, non-tidal wetlands, open water, and wooded upland. In addition to important habitat for migratory waterfowl, there is also a large population of the rare, federally endangered sensitive joint vetch (*Aeschynomene virginica*) identified at the site. There are currently two earthen dams located at the preserve, which are effectively blocking an unnamed tributary to Holt's Creek creating two separate impoundments. In recent years, the downstream impoundment has been partially compromised during several heavy rain events, which has led to the dam exhibiting very unstable conditions. In addition, the outfall of the upstream impoundment has developed a severe head cut, which is threatening the impoundment and surrounding wetlands.

The purpose of the feasibility study is to determine the best course of action for the site and prepare an alternatives analysis report recommending the most appropriate mitigation option for the site. The Conservancy anticipates that non-tidal, tidal, and stream restoration activities may be an appropriate mitigation option for this project.

The field work for the feasibility study was completed in October 2006. The Conservancy anticipates receiving the final report in early 2007. The Conservancy will submit a second proposal in 2007 to request the funding to complete the mitigation option suggested by the feasibility study.

YK-6 Mattaponi River Site

The purpose of this project is to conduct a real estate appraisal of this approximate 72.50 acre property for a potential stream and non-tidal wetland preservation project. The site is located near the town of Aylett in King William County, and is bordered by the Mattaponi River. The funding for this appraisal was approved by the Corps on August 12, 2005, with subsequent funding on May 2, 2006. The Conservancy is in negotiations with the landowner concerning the potential to purchase the easement.

YK-7 Mattaponi River Site

The purpose of this project is to expand the project boundary of the YK-2 (Gwathmey) Meadow Farm wetland mitigation project in King William County. The initial funding for this project was approved by the Corps on June 22, 2006. The Conservancy is finalizing a conservation easement on the parcel and long-term protection will be achieved in accordance with the conservation easement which will be held and monitored annually by the Conservancy.

This project increases the "footprint" of the Gwathmey project by 10.4 acres including approximately 1.74 acres of the agricultural field that may be restored to wetlands and 2.01 acres to uplands and 6.67 acres of upland preservation. The expanded project boundary eliminates potential problems with adjacent site management. The Conservancy is finalizing a conservation easement with the landowner and the area will be managed with the adjacent wetland mitigation project.

YK-8 Mattaponi River (Bach 1)

The purpose of this project is to conduct non-tidal wetland and upland buffer preservation and stream and the associated upland riparian buffer preservation at the Bach property located in Caroline County. The initial funding for this project to complete a real estate appraisal was approved by the Corps on August 11, 2006. A second funding request to complete the acquisition and stewardship activities was approved by the Corps on December 15, 2006. The Conservancy purchased the 175 acre property on December 29, 2006. Long-term protection of the site is accomplished ownership by the Conservancy. No additional monitoring is required for this project.

The Conservancy has identified the Mattaponi River, which drains to the Chesapeake Bay, as an important conservation target. As part of the Chesapeake Bay watershed, this project contributes to water quality improvement goals set for the Bay through the preservation of stream buffer and wetlands. In addition, the site contains a known occurrence of Eastern Lampmussel (*Lampsillis radiata*), a state rare mussel species.

The project will preserve an estimated 103 acres of non-tidal wetlands and approximately 50.18 acres of upland buffer. In addition, the project will preserve approximately 2,650 linear feet of a wooded upland buffer (typically 200 feet wide) along the right bank of the Mattaponi River. Approximately 2,100 linear feet of two tributaries and the associated wooded upland buffer (typically 200 feet each bank) will also be preserved. The Conservancy anticipates completing the surface water delineation or assessment in 2007.

YK-9 Mattaponi River Site

The purpose of this project is to conduct stream and the associated upland riparian buffer preservation at a site located in King William County. The funding for this project was approved by the Corps on December 15, 2006. The Conservancy plans to place a conservation easement on a donated 314.72 acres of this property; however, the mitigation area is 182 acres, as certain activities such as agriculture and silviculture will be allowed outside the designated "no-touch" buffers surrounding the aquatic resources. The easement will be held by the Conservancy, and long-term protection of the site is accomplished through the monitoring and enforcement of the easement. No additional monitoring is required for the project.

The Conservancy has identified the Mattaponi River, which drains to the Chesapeake Bay, as an important conservation target. As part of the Chesapeake Bay watershed, this project contributes to water quality improvement goals set for the Bay through the preservation of stream buffer and wetlands. In addition, a state rare mussel, Eastern Lampmussel (*Lampsillis radiata*), a state rare mussel species, has been identified in the vicinity of the project site.

This project will preserve an estimated 11,500 linear feet of the upland wooded riparian buffer along the right bank of the Mattaponi River. The estimated "no-touch" buffer width along this reach ranges from 175 to 1,400 feet. The mitigation area for the project is 182 acres, which includes the "no-touch" buffer. The remaining 132.72 acres may be subject to activities that exclude its appropriateness as compensatory mitigation, but can be viewed as additional protected acreage as they will not be developed.

The Conservancy anticipates closing on the easement in 2007. Once the easement is finalized, the Conservancy will complete a surface water delineation or assessment for the site.

VI. Future Priorities

The Conservancy has identified future priorities for the Fund, including both programmatic issues and activities associated with individual projects. Programmatic issues include operational activities such as the prioritization of project identification in areas with high mitigation needs. Because the individual project status and the associated required activity for each project is covered in Section V, this section only discusses the general areas of need for projects such as those pending closure or implementation.

A potential change in federal mitigation policy is a primary programmatic issue for the Fund. On March 28, 2006, the Corps and the Environmental Protection Agency (EPA) proposed the joint Rule "Compensatory Mitigation for Losses of Aquatic Resources" (Federal Register Vol. 71, No. 59). If adopted as proposed, this Rule would require that ILF programs be converted to Mitigation Banks or cease selling credits within five years of final issuance of the Rule. A final decision on the Rule by the Corps and EPA is still pending. If the Rule is accepted, either as proposed or amended, there is a high likelihood that the Fund operations will need to be modified to comply with the Rule.

Prioritization of efforts to identify and acquire mitigation projects in basins with the greatest compensatory mitigation need is a dynamic process that requires a high degree of coordination. As indicated in Section V, there are several basins in which there is mitigation need across all aquatic resource types.

While non-tidal wetland mitigation requirements are largely addressed by mitigation projects in certain key basins with the greatest impacts such as the Lower James River, Chowan River and York River, there are several basins in which mitigation projects are needed. The most highly prioritized basins include the Tennessee River, Rappahannock River, Roanoke River, and Shenandoah River. Of these basins the Tennessee has experienced the greatest mitigation credit obligation (23.19 credits); however, the other basins have accrued impacts over longer periods of time and, are therefore, high priorities for project identification. As indicated in Section V, a land appraisal for one project in the Tennessee River Basin (TN-4) involving non-tidal wetland mitigation (as well as stream mitigation) has been funded, and the Conservancy is currently negotiating with the landowner on the sale of the property. In addition, the Conservancy is also actively pursuing a non-tidal wetland and stream restoration/enhancement project in the Roanoke River Basin. The Conservancy anticipates requesting funding for conceptual plan development for this project in early 2007.

Basins with intermediate levels of non-tidal wetland mitigation need include the Chesapeake Bay, Middle James River, and Upper James River. Both the Chesapeake Bay and the Middle James River have approved non-tidal wetland mitigation projects, but additional projects that include wetland restoration or creation are needed. Projects in the Upper James River Basin (UJ-1) and Chesapeake Bay Basin (CB-10) involving feasibility and acquisition were approved in 2006, and the Conservancy anticipates submitting proposals in 2007 to request funding to complete the mitigation options suggested by the feasibility studies.

The amount of tidal wetland impacts and associated mitigation payments is more limited than those for non-tidal wetlands, and historically the Conservancy has focused on the areas of greatest mitigation needs. Nevertheless, a number of projects with tidal mitigation components have been approved through the Fund, including three that involve innovative restoration efforts (submerged aquatic vegetation restoration and oyster reef restoration). However, tidal salt marsh restoration or creation is lacking across all basins in which mitigation payments have been received. Although the restoration efforts funded to date are not inferior they do result in mitigation that is "out-of-kind". Therefore, tidal salt marsh restoration and/or creation will remain a priority, especially for the Atlantic Ocean, Chesapeake Bay, and

Lower James River basins which have accumulated the greatest amount of tidal salt marsh impacts.

The majority of stream impacts utilizing the Fund for mitigation have occurred in the Potomac River Basin. Additional basins with high impacts include the Middle James River, Lower James River, Shenandoah River, and Rappahannock River Basins. These five basins account for 88% of linear footage of impacts through 2006. Appropriately, the Conservancy has focused on these basins to identify and propose stream mitigation projects. Projects have been identified and approved in each of these five basins in 2006, and several additional projects are in development or have been proposed and are awaiting a decision from the Corps.

The Potomac River Basin remains a top priority for stream mitigation projects. However, the Conservancy has made significant strides in identifying and proposing projects in this basin, including three projects approved in 2006 (PO-1, PO-2, and PO-3). For this basin, the Conservancy is currently negotiating with a landowner to purchase a property to conduct both a stream and wetland mitigation project, and anticipates proposing an additional project with significant stream channel length in early 2007. The Conservancy is also focusing on identifying projects in the Lower James River Basin, and anticipates proposing a project with the restoration of significant stream channel length in early 2007.

As reported in Section III, $8,866,084.00 was authorized towards the mitigation activities associated with the 25 projects approved in 2006. The number of projects proposed and approved in 2006 is significantly higher than any other previous year, with the associated amount of authorized funds more than four times the amount than in any other year. The approved projects include non-tidal wetland, tidal wetland, and stream mitigation projects involving a suite of activities including restoration, enhancement, and preservation at sites across the state. Eight of the projects involve restoration and/or enhancement that include design, permitting, site construction, contract oversight and supervision activities that preservation projects typically do not. Due to the significant number of projects approved in 2006 (in addition to the projects approved prior to 2006), the Conservancy staff must dedicate significant effort over the next annual cycle toward moving these approved projects toward implementation.

As approved projects are implemented, mitigation monitoring and corrective action on sites become major priorities for the Fund to ensure the success of the sites. Mitigation monitoring and reporting requires a large investment in resources over a long timeframe. For instance, approximately fifty percent of the non-tidal wetland restoration (455.9 acres) and upland restoration (202.9 acres) require scheduled monitoring through 2011, with the other requiring monitoring through 2016. Similarly, as more stream projects with restoration and enhancement are approved and implemented the mitigation monitoring obligations will increase. In addition, corrective action on sites is an anticipated and necessary part of mitigation projects. Of the twelve constructed non-tidal wetland projects, some form of corrective action is needed on approximately one third of the projects. Managing this workload in a way that ensures the success of the mitigation sites will remain a high priority.

To date, no approved projects have been officially closed; meaning the mitigation value of the project has not been finalized. In addition to finalizing the mitigation value, any authorized funds not spent for the project at the time of closure will be returned to the Fund to facilitate additional mitigation projects. Therefore, officially closing completed projects will help guide the Conservancy in prioritizing the basins with high mitigation need, while allowing the program to analyze the available remaining balance for each basin.

Twenty-five of the approved projects have been identified in this report as “pending project closure” meaning that the projects may be officially closed. Four of the projects pending closure either require a delineation of surface waters and wetlands, or must have a wetland assessment completed to verify wetland acres, or are awaiting Corps confirmation. The remaining 21 projects have completed all the

requirements for project closure. Roughly one quarter of the approved projects to date either need a delineation of surface waters and wetlands, or must have a wetland assessment completed to verify wetland acres. These project closure and delineation efforts represent a large amount of coordination and field time respectively.

Attachment A. Map of Project Locations within River Basins

Included as a stand-alone document – filename: *2006 Report - Attachment A - [11x17].jpg.*

Attachment B. Map of Northwest River Conservation Corridor

Included as a stand-alone document – filename: *2006 Report - Attachment B - [8.5x11].jpg.*

Attachment C. Approved Project Table

Included as a stand-alone document – filename: *2006 Report - Attachment C.pdf.*